KLEINFELDER

August 29, 1988

Project 50-1014-03

Mr. Hank Yacoub
California Regional Water Quality Control Board
Los Angeles Region
107 South Broadway, Room 4027
Los Angeles, California 90012-4596

QUARTERLY SAMPLING REPORT
JUNE 1988
SOUTHERN CALIFORNIA CHEMICAL
8851 Dice Road
Santa Fe Springs, California

Dear Mr. Yacoub:

Attached to this letter is the quarterly sampling report for Southern California Chemical, Santa Fe Springs facility. The report includes the results of analyses of water samples and water level measurements obtained on June 15, 16, and 17, 1988, from the on-site monitoring wells.

We trust the information in the report meets your needs at this time. Should you have any questions, please feel free to contact us at your convenience.

Very truly yours,

KLEINFELDER

Kenneth L. Durand
Project Hydrogeologist

John F. Ficke, P.E.
Engineering Manager

KLD:JFF:m

cc: Bud Torrance
John Leo
Jim Breitlow

Jon: Maybe you could have this faxed. Thx

QUARTERLY SAMPLING REPORT
JUNE 1988
SOUTHERN CALIFORNIA CHEMICAL
SANTA FE SPRINGS, CALIFORNIA

PROJECT 50-1014-03

PREPARED FOR

SOUTHERN CALIFORNIA CHEMICAL COMPANY
8851 DICE ROAD
SANTA FE SPRINGS, CALIFORNIA

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August 1988

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8851 Dice Road
Santa Fe Springs, California

1 INTRODUCTION

In order to monitor the groundwater quality at Southern California Chemical (SCC), Santa Fe Springs facility (Figure 1), a program of quarterly groundwater sampling has been implemented. This report summarizes the ninth sampling and analyses period in the officially established quarterly sampling program. The scope of work conducted was in accordance with that requested by SCC for the quarterly sampling program. This report contains the results of analyses of water samples and water level measurements obtained during June 15, 16, and 17, 1988, from SCC groundwater monitoring wells. Included for comparison are the analytical results of our previous water samplings.

Groundwater sampling at the subject site began in February 1985 to assess and aid in mitigation of a chromium and cadmium plume located in the vicinity of monitoring well MW-4 (see Figure 2). Subsequently, a quarterly groundwater sampling program was initiated in March of 1986. The purpose of the quarterly sampling program is to monitor groundwater quality and establish a data base of the compounds in the groundwater beneath the site. The most important aspects of this program are: (a) assessment of location and concentrations of the chromium and cadmium plume; (b) detection and evaluation of water-quality changes; and (c) characterization of background water quality.

This report includes the data obtained from the June 1988 sampling, as well as all previous sampling data. The original laboratory reports and chain-of-custody records of the June 1988 sampling run are included in the appendices. The tenth quarterly sampling is scheduled for September 1988, to be followed by a report to the Regional Water Quality Control Board by October 1988.

2 MONITORING WELL SAMPLING

Sampling was performed by a Kleinfelder environmental technician using the Sampling Protocol as outlined in Southern California Chemical Quality Assurance Project Plan (QAPP) dated May 1988.

Twelve monitoring wells were sampled as part of this program. Eleven of the twelve wells sample groundwater from the uppermost portion of the first aquifer beneath the site. Well MW-4A is perforated in the lowest portion of the same aquifer.

As customary, the Regional Water Quality Control Board was notified prior to sampling and was provided the opportunity to observe sampling and to collect duplicate or split samples.

3 LABORATORY TESTING

Analytical testing was performed by Chemical Research Laboratories (CRL) of Garden Grove, California. Quality assurance testing was provided by Brown and Caldwell Laboratories (B&C) of Pasadena, California. A detailed discussion of both laboratories' internal quality assurance/quality control is included in the QAPP.

Laboratory testing for the June 1988 quarterly sampling consisted of analyzing of about 120 water samples. The primary laboratory, Chemical Research Laboratories, analyzed 100 monitoring well samples, and 5 quality control samples. The quality assurance laboratory, B&C analyzed 8 split monitoring well samples, 3 quality control samples and 3 spiked samples. Spike samples were provided by Analytical Technologies, Inc. of San Diego, California.

The results of the testing are summarized in Tables 1 through 12. Individual test results are included in Appendix A and chain-of-custody records are included in Appendix B.

Please note that the samples for monitoring wells 4 and 4A were mislabeled during sampling. The depth of the well measurements on the technician's well sample records clearly indicate that the samples were mislabeled. The chemical analysis results within the report have been corrected; however, the laboratory reports of individual test results in Appendix B have not been changed. Results listed as well 4 on laboratory reports are actually for well 4A and those listed as 4A are for well 4.

4 QUALITY CONTROL

To monitor the validity of the chemical data, the following quality assurance measures were employed. Quality control procedures are discussed in more detail in the QAPP.

4.1 DUPLICATE SAMPLES

Duplicate samples were taken at each well to ensure a backup sample in an event of breakage or trouble with the testing equipment. This also allows for a recheck on results if there is an inconsistency or if confirmation of results becomes necessary.

4.2 SPLIT SAMPLE TESTING

Split samples were collected and analyzed on four of a the twelve monitoring wells. Monitoring wells MW-4, MW-4A, MW-10, and MW-11 were analyzed by both laboratories. Table 13 compares the results of split sample testing. There is general agreement between laboratories.

4.3 CROSS-CONTAMINATION TESTING

Quality control (QC) samples were collected to verify that cross-contamination between wells was not occurring during sampling. Samples of distilled water were collected from the bailer prior to sampling of the first well and again between selected subsequent wells by the protocol described in the QAPP. The sequence of sampling and the compounds detected in the quality control samples are shown in Table 14. The compounds with elevated concentrations in the monitoring wells (ethyl benzene, trichloroethylene, 1,1-dichloroethane, etc.) were non-detected at 1.0 μg/l in the quality control samples. This indicates that the monitoring well sample cross contamination did not occur by the sampling system.

4.4 SPIKED SAMPLE TESTING

Analytical Technologies, Inc. (ATI) of San Diego, California supplied a set of spiked samples. The spiking solution is traceable to the National Bureau of Standards. Samples were spiked with toluene at 480 μg/l, benzene at 500 μg/l, ethylbenzene at 460 μg/l and chromium at 45 μg/l. Table 15 gives the percent recovery by B&C laboratory for these compounds. Percent recovery ranged from 107 to 111 percent, which indicates an acceptable degree of accuracy. CRL did not analyze spiked samples during the June 1988 quarterly sampling period.

4.5 SAMPLE CONTROL

All samples were labeled during sampling and custody seals were placed across the lids. Samples were transported under chain-of-custody to the laboratory in sealed ice chests. Copies of the chain-of-custody records are included in Appendix B.

5 GROUNDWATER LEVELS

Depth to groundwater was measured prior to sampling of each monitoring well. The June 1988 measurements and all prior measurements are listed in Table 16. With the exception of monitoring well MW-2, the groundwater surface rose in elevation beneath the facility from the previous quarter. Water level rise ranged from 0.10 feet to 0.97 feet. The groundwater surface elevation in monitoring well MW-2 declined by 0.28 feet from the previous quarter. Figure 3, "Groundwater Contour Map", illustrates the direction of groundwater flow beneath the study site.

6 GROUNDWATER QUALITY

6.1 EPA INDICATOR PARAMETERS

40 CFR 265.92(b)3 requires that the pH, specific conductance, total organic carbon (TOC), and total organic halogen (TOX) be analyzed as indicators of groundwater quality. These indicator measurements have remained relatively consistent with previous concentrations (Tables 1 to 12). The TOC concentration in MW-3, which increased from 50 to 135 mg/l in the February 1988 sampling, has decreased to 81 mg/l in June 1988. The concentration of organic compounds decreased accordingly.

6.2 ORGANIC COMPOUNDS

Organic chemicals have not been used on-site by Southern California Chemical Company during production processes. However, a number of organic compounds exist in the groundwater beneath the site. A large increase in the organic concentration in monitoring well MW-3 occurred in the February 1988 sampling. Ethyl benzene increased from 290 μg/l to 8500 μg/l, toluene increased from non-detected at 0.5 μg/l to 8,500 μg/l, and total xylene increased from non-detected at 0.5 μg/l to 23,000 μg/l. In the June 1988 sampling concentration levels decreased to 1700 μg/l for ethyl benzene, 550 μg/l for toluene and 850 μg/l for total xylene. However, concentrations have not decreased to the pre-February 1988 levels. The ethyl benzene, toluene, and total xylenes concentrations are shown on Plates 4, 5, and 6 respectively. Monitoring well MW-3 is an upgradient well located along the northern property boundary of the site. As these data indicate, and as discussed in previous reports, the suspected source for the organic chemicals is the neighboring facility.

6.3 SITE SPECIFIC INDICATOR CHEMICALS

Hexavalent chromium and total chromium concentrations are both measured in the SCC quarterly sampling program. Hexavalent chromium exists at elevated concentrations in monitoring well MW-4. Chromium concentrations were originally detected in MW-4 at 500 mg/l in June 1985. Subsequent concentrations have fluctuated between 61 mg/l and 550 mg/l. As of February 1988 hexavalent chromium existed at 84 mg/l in MW-4. Elevated concentrations of hexavalent chromium also exist in MW-9. Hexavalent chromium was first detected in MW-9 at 0.05 mg/l in June 1987 and increased to 1.3 mg/l in February 1988. The June 1988 sample shows a decrease to 0.8 mg/l. Hexavalent chromium was below the detection limit of 0.1 mg/l in the remaining on-site wells during the June 1988 sampling period.

Historically, total chromium has been present above the detection limit in MW-4 and MW-9. During the June 1988 sampling, total chromium concentrations were detected at 218 mg/l in MW-4 and 1.66 mg/l in MW-9.

In the remaining monitoring wells, total chromium concentrations were below the detection limit of 0.04 mg/l until February 1988. During the February 1988 sampling period, total chromium was detected at concentrations between 0.10 and 0.02 mg/l in the remaining on-site wells.

The increase in total chromium concentrations was attributed to a change in the sample preparation method and not a change in the groundwater quality. EPA Method 3010, (described in EPA document SW 846) is the methodology used to prepare water samples to be analyzed for total metals. Method 3010 requires that the sample be "well mixed" prior to removal of the sample from the collection bottle. This mixing of the sample suspends the fine sediment (suspended sediment) that was collected during sampling.

B&C, the previous primary laboratory, was using a modification of EPA Method 3010 for sample preparation in which the sample was not mixed prior to analysis. This modification of Method 3010 was suggested as the "common sense" approach by personnel of the Department of Health Services, Southern California Laboratory. Chemical Research Laboratory, the current primary laboratory, used method 3010 exactly as stated in SW 846 document. Hence, mixing of the sample yielded total chromium concentrations which includes the suspended sediments.

To evaluate if the changes in total chromium concentration were related to a change in sample preparation method and not a change in groundwater quality, the monitoring wells were resampled for chromium in early May 1988. Samples were collected by the same protocol as in previous samples. The only difference was that these samples were field filtered through a 0.45 micrometer filter prior to placement into the sample container. The May 1988 total chromium concentrations decreased to nondetected at 0.02 mg/l in most wells. This supports the suspicion that the concentrations of chromium detected during the February 1988 sampling were related to the change in sample preparation methods and not a change in water quality.

During the June 1988 sampling period, groundwater samples were field filtered. Total chromium was present above the detection limit of 0.02 mg/l in monitoring wells MW-1, MW-5, MW-7, and MW-10 (as well as MW-4 and MW-9 as discussed above). Some of these values may have resulted from laboratory contamination since the laboratory reagent blank contained total chromium at 0.03 mg/l. Concentrations of total chromium in well MW-10 have been at or above 0.05 mg/l in February May, and June 1988 quarterly sampling periods. Goundwater from well MW-10 may be slightly degraded with respect to total chromium.

7 STATISTICAL ANALYSIS OF GROUNDWATER QUALITY DATA

An Average Replicate (AR) T-Test is used to evaluate changes in groundwater quality. A description of the statistical procedure can be found in the "Groundwater Monitoring Technical Enforcement Guidance Document," dated September 1986, prepared by the United States Environmental Protection Agency (EPA) to be used for sites that come under the Resource Conservation and Recovery Act (RCRA).

Background concentrations for the interim status detection monitoring program at SCC are established in this report. The June 1988 sampling are examined to determine if there are any statistically significant increases in indicator parameters. The statistical methods for the AR T-Test are summarized in Appendix C.

7.1 BACKGROUND CONCENTRATIONS

Groundwater level data collected from 1985 to present indicate that groundwater flows generally to the southwest at the SCC facility. Therefore, monitoring wells MW-1 and MW-2 were selected as the background wells for EPA indicator parameters and site specific indicator parameters.

Background levels were calculated using measurements from the first six sampling periods, which covers 2 years (February 1985 to March 1987). The background concentrations and variance values for the SCC facility wells are summarized in Table 17.

7.2 STATISTICAL ANALYSIS OF THE JUNE 1988 QUARTERLY SAMPLING

The AR T-Test was applied to the June 1988 sampling data for both upgradient and downgradient wells. The average replicate test statistic (t^*) for each monitoring well are listed in Table 18. These values are compared to the Bonferroni critical t-statistic (t_c) to evaluate if there is a suggestion of contamination. The one-tailed critical value was chosen with eleven degrees of freedom and twelve monitoring wells, yielding a t_c of 4.609 (see Appendix C).

The t^* and t_c values are compared on Table 18. According to the AR T-Test, there is no statistical indication that the SCC facility wells are contaminated with respect to pH, TOX, TOC and specific conductance.

8 LIMITATIONS

This report is based on:

1. The observations of our field personnel
2. The results of laboratory tests performed by Brown & Caldwell Laboratory and Chemical Research Laboratories
3 Measurements of groundwater elevations in the 12 monitoring wells
4. Referenced documents

It is possible that variations in the soil or groundwater conditions could exist beyond the points explored in this investigation. Also, changes in the groundwater conditions could occur at some time in the future due to variations in rainfall, temperature, regional water usage, or other factors. The services performed by Kleinfelder have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the Los Angeles County area. No other warranty, expressed or implied, is made.

Respectfully submitted,

KLEINFELDER, INC.

Kenneth L. Durand
Project Hydrogeologist

John F. Ficke, P.E.
Engineering Manager

LB:KLD:m

TABLE 1
WATER QUALITY DATA
MONITORING WELL #1
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

COMPOUND	DATE SAMPLED												
	2/85-3/85	7/85-8/85	3/86	5/86	7/86	9/86	12/86	3/87	6/87-7/87	10/87	2/88	5/88	6/88
EPA Indicator Measurement (CFR 40 265.92)													
pH (units)	7.3		7.1		7.2	7.0	7.38	6.8	7.0	6.9	7.1		7.05
TOC (mg/l)	3.7		19		35	21	ND 3	ND 3	13	32	10		8.5
TOX (mg/l)	ND .05		ND .08		ND .08	ND .08	ND .08	ND .08	ND .08	ND .08	0.1		0.038
Sp. Cond. (umhos/cm)	2300		3400		1650	3600	3200	2800	3400	3800	2975		2500
Site Specific Indicator Chemicals													
Chromium (total) (mg/l)	ND .0005		ND .03		ND .03	ND .03	ND .03	ND .04	ND .04	ND .04	0.08	ND .02	0.03
Chromium (HEX) (mg/l)	ND .05		ND .02		ND .02	ND .02	ND .02	ND .02	ND .02	ND .02	ND .1		ND .05
Cadmium (mg/l)	ND .0002		ND .009		ND .02	ND .01	ND .01	ND .01	ND .01	ND .02	ND .02		ND .01
Copper (mg/l)	ND .08		ND .02		ND .01	ND .04	ND .04	ND .02	0.10	ND .02	0.04		
Zinc (mg/l)	ND .019		0.18		0.04	ND .08	0.018	ND .03	0.06	ND .03	0.04		0.07
Chloride (mg/l)	330		300		650	920	700	570	720	770	430		460
Nitrate as N (mg/l)	7.0		3.7		0.5	1.3	4.06	5.3	ND .1	2.3	4.5		5.2
Nitrate as NO_3 (mg/l)	31		17		18	11	18	23	ND .4	11	19		23

Note: ND 1 = Chemical was not detected at 1 mg/l.

Organic Compounds (EPA Method 624)													
1,1-Dichloroethane (ug/l)		ND 1		ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1	
1,1-Dichloroethylene (ug/l)		ND 1		ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1	
1,2-Dicholorethane (ug/l)		ND 1		ND 1	2	1	0.5	1	1	ND 1		ND1	
Benzene (ug/l)		ND 1		ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND .7		ND .7	
Carbon Tetrachloride (ug/l)		ND 1		ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1	
Chloroform (ug/l)		ND 1		ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1	
Ethyl Benzene (ug/l)		ND 1		ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1	
Trichlorethylene (ug/l)		16		16	18	18	9	11	2.4	4		15	
Toluene (ug/l)		ND 1		ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1	
Xylene (ug/l)		ND 1		ND 1	ND 1		ND .5	ND .5	ND .5	ND 1		ND 1	
Methylene Chloride (ug/l)		ND 1		ND 1	ND 1	ND 1	ND 2	ND .5	1.7	ND 1		ND 1	

Note: ND 1 = Compound was not detected at 1 ug/l.

TABLE 2
WATER QUALITY DATA
MONITORING WELL #2
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

COMPOUND	DATE SAMPLED												
	2/85-3/85	7/85-8/85	3/86	5/86	7/86	9/86	12/86	3/87	6/87-7/87	10/87	2/88	5/88	6/88
EPA Indicator Measurement (CFR 40 265.92)													
pH (units)	7.0		7.4		7.7	7.4	7.68	7.1	7.1	7.12	7.27		7.35
TOC (mg/l)	34		4.8		ND 3	ND 3	ND 3	ND 3	ND 3	ND 3	ND 1		ND 1
TOX (mg/l)	ND .05		ND .08		ND .08	ND .08	ND .08	ND .08	ND .08	ND .08	0.04		0.032
Sp. Cond. (umhos/cm)	2300		1900		1800	2100	2280	1900	3400	1500	1550		1500
Site Specific Indicator Chemicals													
Chromium (total) (mg/l)	ND .0005	ND .033	ND .03		ND .03	ND .03	ND .03	ND .04	ND .04	ND .04	0.05	ND .02	ND .02
Chromium (HEX) (mg/l)	ND .05	ND .033	ND .03		ND .02	ND .02	ND .02	ND .02	ND .02	ND .02	ND .1		ND .05
Cadmium (mg/l)	ND .0002		ND .009		ND .01	ND .03	ND .01	ND .01	ND .01	ND .02	ND .02		ND .01
Copper (mg/l)	ND .08		ND .02		ND .02	ND .04	ND .04	ND .02	ND .02	ND .02	0.04		
Zinc (mg/l)	ND .019		ND .03		ND .04	ND .08	0.021	ND .031	ND .031	ND .03	0.03		ND .02
Chloride (mg/l)	270		180		220	410	510	250	700	180	110		160
Nitrate as N (mg/l)	2.1		5.8		5.4	5.0	6.25	7.2	8.8	7.2	7.2		7.2
Nitrate as NO_3 (mg/l)	9.1		26		24	22	27.7	32	39	32	32		32
Organic Compounds (EPA Method 624)													
1,1-Dichloroethane (ug/l)		4	3		ND 1	5	9	21	20	2.5	ND 1		ND 1
1,1-Dichloroethylene (ug/l)		3	ND 1		ND 1	3	5	0.9	11	0.94	ND 1		ND 1
1,2-Dicholorethane (ug/l)		ND 1	ND 1		3	1	ND 1	ND .5	2.2	ND .5	ND 1		ND 1
Benzene (ug/l)		ND 1	ND 1		ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND .7		ND .7
Carbon Tetrachloride (ug/l)		ND 1	ND 1		ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1
Chloroform (ug/l)		ND 1	ND 1		ND 1	2	2	1	ND .5	0.73	ND 1		ND 1
Ethyl Benzene (ug/l)		ND 1	ND 1		3	2	ND 1	ND .5	6.2	ND .5	ND 1		ND 1
Trichlorethylene (ug/l)		21	22		12	38	67	20	93	40	5		23
Toluene (ug/l)		ND 1	ND 1		3	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1
Xylene (ug/l)		ND 1	ND 1		2	ND 1		ND .5	ND .5	ND .5	ND 1		ND 1
Methylene Chloride (ug/l)		ND 1	ND 1		ND 1	ND 1	ND 1	ND 2	ND .5	11	ND 1		ND 1

Note: ND 1 = Chemical was not detected at 1 mg/l.

Note: ND 1 = Compound was not detected at 1 ug/l.

TABLE 3
WATER QUALITY DATA
MONITORING WELL #3
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

COMPOUND	DATE SAMPLED												
	2/85-3/85	7/85-8/85	3/86	5/86	7/86	9/86	12/86	3/87	6/87-7/87	10/87	2/88	5/88	6/88
EPA Indicator Measurement (CFR 40 265.92)													
pH (units)	7.4		7.0		7.2	7.2	7.55	6.9	7.0	5.9	6.78		7.10
TOC (mg/l)	16		190		44	29	31	20.5	21	50	135		81
TOX (mg/l)	0.17		ND .08		.18	.17	.21	.22	.15	.27	.10		0.24
Sp. Cond. (umhos/cm)	1700		1500		2200	2200	2400	2300	2200	3300	1575		2100
Site Specific Indicator Chemicals													
Chromium (total) (mg/l)	ND .0005	ND .033	ND .03		ND .03	ND .03	ND .03	ND .04	ND .04	ND .04	.08	ND .02	ND .02
Chromium (HEX) (mg/l)	ND .05	ND .033	ND .02		ND .02	ND .02	ND .02	ND .02	ND .02	ND .02	ND .1		ND .05
Cadmium (mg/l)	ND .0002	ND .011	ND .009		ND .01	ND .01	ND .01	ND .01	ND .01	ND .02	ND .02		ND .01
Copper (mg/l)	ND .08		ND .02		ND .02	ND .04	ND .04	ND .02	ND .02	ND .02	ND .02		0.02
Zinc (mg/l)	ND .019		0.26		ND .04	ND .08	0.021	ND .031	ND .031	ND .03	ND .02		0.04
Chloride (mg/l)	170		76		400	520	550	420	380	740	190		350
Nitrate as N (mg/l)	3.0		ND 1		6.5	4.1	4.81	3.4	3.8	5.2	ND .2		2.7
Nitrate as NO_3 (mg/l)	13		ND 4.4		29	18	21.3	15	17	23	ND 1		12

Note: ND 1 = Chemical was not detected at 1 mg/l.

Organic Compounds (EPA Method 624)													
1,1-Dichloroethane (ug/l)	6	ND 50	5	4	5	5	4	1.6	6.9	ND 10			ND 50
1,1-Dichloroethylene (ug/l)	14	ND 50	11	7	13	17	7.8	3.9	15	ND 10			ND 50
1,2-Dicholorethane (ug/l)	ND 1	ND 50	9	6	7	11	18	2.11	ND .5	36			ND 50
Benzene (ug/l)	9	ND 50	3	ND 1	3	2	ND .5	ND .5	ND .5	ND 10			ND 35
Carbon Tetrachloride (ug/l)	73	ND 50	78	110	58	87	50	73	87	ND 10			ND 50
Chloroform (ug/l)	46	ND 50	36	97	33	45	20	22	ND .5	ND 10			ND 50
Ethyl Benzene (ug/l)	ND 1	95000	1100	ND 1	310	4	ND .5	ND .5	290	8500			1700
Trichlorethylene (ug/l)	320	ND 50	160	170	200	160	98	70	150	14			150
Toluene (ug/l)	2	15000	11	ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	8500			550
Xylene (ug/l)	ND 1	20000	2000	ND 1	10		ND .5	ND .5	ND .5	23000			850
Methylene Chloride (ug/l)	ND 1	ND 50	ND 1	ND 1	2	ND 1	ND 2	ND 2	9.6	ND 10			ND 50

Note: ND 1 = Compound was not detected at 1 ug/l.

TABLE 4
WATER QUALITY DATA
MONITORING WELL #4
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

COMPOUND	DATE SAMPLED 2/85-3/85	7/85-8/85	3/86	5/86	7/86	9/86	12/86	3/87	6/87-7/87	10/87	2/88	5/88	6/88
EPA Indicator Measurement (CFR 40 265.92)													
pH (units)	6.3		7.1		7.1	6.6	7.4	6.7	6.3	6.3	6.6		6.55
TOC (mg/l)	36		26		110	79	98	26.5	133	90	46		57
TOX (mg/l)	ND .05		.26		.19	2.3	1.40	.68	2.10	1.3	.36		0.73
Sp. Cond. (umhos/cm)	6400		3600		3500	4250	4950	4000	11000	7300	4625		5900
Site Specific Indicator Chemicals													
Chromium (total) (mg/l)	500	550	61		120	180	170	98	440	190	140	238	218
Chromium (HEX) (mg/l)	500	500			120	180	170	100	430	232	140		84
Cadmium (mg/l)	0.78	0.92	0.035		0.04	0.09	0.07	0.05	ND .01	.33	.06		0.13
Copper (mg/l)	ND .08		ND .02		ND .02	ND .04	ND .03	ND .02	ND .02	ND .02	ND .03		0.04
Zinc (mg/l)	0.06		ND .03		ND .04	ND .08	ND .007	ND .03	ND .03	ND .03	ND .03		0.15
Chloride (mg/l)	2300		1100		770	1300	1400	960	3500	1800	790		1600
Nitrate as N (mg/l)	18	12	ND 13		0.5	1.3	1.1	ND .1	ND .7	1.3	.2		0.75
Nitrate as NO_3 (mg/l)	81	55	ND 55		2.4	5.6	5.0	ND .4	ND 3	5.8	1.1		3.3

Note: ND 1 = Chemical was not detected at 1 mg/l.

Organic Compounds (EPA Method 624)												
1,1-Dichloroethane (ug/l)	100	100	42	57	61	120	27	110	120	70		130
1,1-Dichloroethylene (ug/l)	100	42	34	41	61	67	20	94	110	56		60
1,2-Dicholorethane (ug/l)	ND 50	17	34	61	12	140	74	74	100	35		90
Benzene (ug/l)	ND 50	16	9	ND 1	ND 10	5	ND 5	ND 5	ND .5	ND 14		20
Carbon Tetrachloride (ug/l)	ND 50	ND 1	ND 1	ND 1	ND 10	ND 1	ND 5	ND 5	1.5	ND 20		ND 10
Chloroform (ug/l)	ND 50	7	3	8	10	12	6.2	30	23	ND 20		23
Ethyl Benzene (ug/l)	3000	36	50	1100	670	220	160	1500	380	70		40
Trichlorethylene (ug/l)	550	140	170	200	280	290	180	280	190	110		250
Toluene (ug/l)	8300	130	25	330	260	220	240	3700	580	180		90
Xylene (ug/l)	10000	100	30	300	300	300	731	2700	570	200		120
Methylene Chloride (ug/l)	100	12	ND 1	17	ND 10	ND 1	27	140	110	ND 20		110

Note: ND 1 = Compound was not detected at 1 ug/l.

TABLE 5
WATER QUALITY DATA
MONITORING WELL #4A
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

	DATE SAMPLED											
	2/85-3/85	7/85-8/85	3/86	5/86	7/86	9/86	12/86	3/87	6/87-7/87	10/87	2/88	5/88	6/88
COMPOUND	EPA Indicator Measurement (CFR 40 265.92)												
pH (units)		6.8	7.5		7.6	7.5	7.7		7.7	7.2	7.3		7.45
TOC (mg/l)		40	8.3		ND 3	ND 3	ND 3		ND 3	ND 3	ND 1		ND 1
TOX (mg/l)		ND .05	ND .08		ND .08	ND .08	ND .08		.14	ND .03	ND .01		0.15
Sp. Cond. (umhos/cm)		1500	1500		850	1400	1525		1600	1700	1662		1550
	Site Specific Indicator Chemicals												
Chromium (total) (mg/l)		ND .03	ND .03		ND .03	ND .03	ND .03		ND .04	ND .04	.03	.02	ND .02
Chromium (HEX) (mg/l)		ND .5			ND .02	ND .02	ND .02		ND .02	ND .02	ND .1		ND .05
Cadmium (mg/l)		ND .01	ND .01		ND .01	ND .01	ND .01		ND .01	ND .02	ND .02		ND .01
Copper (mg/l)			ND .02		ND .02	ND .04	ND .03		ND .02	ND .02	ND .02		0.02
Zinc (mg/l)			ND .03		ND .04	ND .08	ND .007		ND .03	ND .03	ND .02		ND .02
Chloride (mg/l)			100		110	120	130		160	129	97		100
Nitrate as N (mg/l)		4.5	7.5		6.1	4.7	6.3		5.4	6.1	3.8		6.1
Nitrate as NO_3 (mg/l)		20	33		27	21	28		24	27	17		27
	Organic Compounds (EPA Method 624)												
1,1-Dichloroethane (ug/l)			13		11	3	19		140	1.2	ND 1		ND 10
1,1-Dichloroethylene (ug/l)			1		2	ND 1	2		50	ND .5	ND 1		ND 10
1,2-Dicholorethane (ug/l)			ND 1		ND 1	ND 1	2		1.5	ND .5	ND 1		ND 10
Benzene (ug/l)			8		ND 1	ND 1	ND 1		ND .5	ND .5	ND .7		ND 7
Carbon Tetrachloride (ug/l)			ND 1		ND 1	ND 1	ND 1		ND .5	ND .5	ND 1		ND 10
Chloroform (ug/l)			ND 1		ND 1	ND 1	2		17	ND .5	ND 1		ND 10
Ethyl Benzene (ug/l)			ND 1		ND 1	ND 1	ND 1		ND .5	ND .5	ND 1		ND 10
Trichlorethylene (ug/l)			8		7	3	12		82	3.2	ND 1		ND 20
Toluene (ug/l)			ND 1		ND 1	ND 1	ND 1		1.5	ND .5	ND 1		ND 10
Xylene (ug/l)			ND 1		ND 1	ND 1			ND .5	ND .5	ND 1		ND 10
Methylene Chloride (ug/l)			ND 1		ND 1	ND 1	ND 1		11	ND .5	ND 1		100

Note: ND 1 = Chemical was not detected at 1 mg/l.

Note: ND 1 = Compound was not detected at 1 ug/l.

TABLE 6
WATER QUALITY DATA
MONITORING WELL #5
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

COMPOUND	DATE SAMPLED											
	2/85-3/85	7/85-8/85	3/86	5/86	7/86	9/86	12/86	3/87	6/87-7/87	10/87	2/88	5/88	6/88
EPA Indicator Measurement (CFR 40 265.92)													
pH (units)	7.3		7.4		7.3	7.3	7.82	6.9	7.0	7.6	7.06		7.10
TOC (mg/l)	ND 3		4.8		5	3	ND 3	ND 3	ND 3	5	7		21
TOX (mg/l)	.19		.16		.65	.18	.30	.45	.36	ND .03	.3		0.13
Sp. Cond. (umhos/cm)	1700		1200		1400	1100	1220	1400	1400	1300	1537		1400
Site Specific Indicator Chemicals													
Chromium (total) (mg/l)	ND .0005		ND .03		ND .03	ND .03	ND .03	ND .04	ND .04	ND .04	.1	ND .02	0.05
Chromium (HEX) (mg/l)	ND .05		ND .02		ND .02	ND .02	ND .02	ND .02	ND .02	ND .02	ND .1		ND .1
Cadmium (mg/l)	ND .0002		ND .009		ND .01	ND .01	ND .01	ND .01	ND .01	ND .02	ND .02		ND .01
Copper (mg/l)	ND .08		ND .02		ND .02	ND .04	ND .04	ND .02	ND .02	ND .02	ND .02		ND .02
Zinc (mg/l)	ND .019		0.18		ND .04	ND .08	ND .001	ND .031	ND .03	ND .03	.4		ND .02
Chloride (mg/l)	2.0		66		79	290	143.5	110	110	100	90		91
Nitrate as N (mg/l)	0.42		8.8		12	8.6	11.13	10	15	3.4	5		14
Nitrate as NO_3 (mg/l)	1.9		39		55	38	49.3	45	65	24	22		3.1

Note: ND 1 = Chemical was not detected at 1 mg/l.

Organic Compounds (EPA Method 624)												
1,1-Dichloroethane (ug/l)	ND 1	ND 1	2	2	7	4	5.4	.29	ND 1		ND 1	
1,1-Dichloroethylene (ug/l)	ND 1	ND 1	3	3	4	2.7	5.2	.25	ND 1		ND 1	
1,2-Dicholorethane (ug/l)	ND 1	ND 1	ND 1	ND 1	ND 1	ND .5	ND .5	ND .3	ND 1		7	
Benzene (ug/l)	5	ND 1	ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND .7		ND .7	
Carbon Tetrachloride (ug/l)	3	11	45.5	37	68	100	120	99	20		26	
Chloroform (ug/l)	2	10	14.5	16	43	48	50	95	10		18	
Ethyl Benzene (ug/l)	ND 1	ND 1	ND 1	6	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1	
Trichlorethylene (ug/l)	10	24	64	36	70	70	59	26	5		18	
Toluene (ug/l)	1	ND 1	ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1	
Xylene (ug/l)	ND 1	ND 1	ND 1	ND 1		ND .5	7.3	ND .5	ND 1		ND 1	
Methylene Chloride (ug/l)	ND 1	ND 1	ND 1	ND 1	ND 1	ND 2	ND .5	4.3	ND 1		ND 1	

Note: ND 1 = Compound was not detected at 1 ug/l.

TABLE 7
WATER QUALITY DATA
MONITORING WELL #6B
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

	DATE SAMPLED											
	2/85-3/85	7/85-8/85	3/86	5/86	7/86	9/86	12/86	3/87	6/87-7/87	10/87	2/88	5/88	6/88
COMPOUND	EPA Indicator Measurement (CFR 40 265.92)												
pH (units)	7.6		7.4		7.5	7.8	7.6	7.1	7.4	7.1	7.13		7.10
TOC (mg/l)	ND 3		6.5		ND 3	ND 3	ND 3	ND 3	ND 3	9	ND 1		ND 1
TOX (mg/l)	0.1		ND .08		ND .08	ND .08	ND .08	ND .08	ND .08	ND .03	.02		ND .01
Sp. Cond. (umhos/cm)	1400		1300		1400	1200	1425	1400	1600	1400	1265		1300
	Site Specific Indicator Chemicals												
Chromium (total) (mg/l)	0.0038		ND .03		ND .03	ND .02	ND .03	ND .04	ND .04	ND .04	.02	ND .02	ND .02
Chromium (HEX) (mg/l)	ND .05		ND .02		ND .02	ND .02	ND .02	ND .02	ND .02	ND .02	ND .1		ND .05
Cadmium (mg/l)	ND .0002		ND .009		ND .01	ND .01	ND .01	ND .01	ND .01	ND .02	ND .02		ND .01
Copper (mg/l)	ND .08		ND .02		ND .02	ND .04	ND .03	ND .02	ND .02	ND .02	ND .02		ND .02
Zinc (mg/l)	ND .03		ND .03		ND .04	ND .08	ND .007	ND .03	ND .03	ND .03	ND .02		.02
Chloride (mg/l)	79		220		82	100	140	92	130	94	61		89
Nitrate as N (mg/l)	6.9		8.8		7.0	5.2	6.1	7	8.4	8.4	8.4		7.3
Nitrate as NO_3 (mg/l)	28		39		31	23	27	31	37	37	37		32

Note: ND 1 = Chemical was not detected at 1 mg/l.

	Organic Compounds (EPA Method 624)												
1,1-Dichloroethane (ug/l)		ND 1		ND 1	ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1
1,1-Dichloroethylene (ug/l)		ND 1		ND 1	ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1
1,2-Dicholorethane (ug/l)		ND 1		ND 1	ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1
Benzene (ug/l)		ND 1		ND 1	ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND .7		ND .7
Carbon Tetrachloride (ug/l)		ND 1		ND 1	ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1
Chloroform (ug/l)		ND 1		ND 1	ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1
Ethyl Benzene (ug/l)		ND 1		ND 1	ND 1	ND 1	ND 1	ND .5	1.5	ND .5	ND 1		ND 1
Trichlorethylene (ug/l)		30		19	23.5	24	21	20	33	22			21
Toluene (ug/l)		ND 1		ND 1	ND 1	ND 1	ND 1	ND .5	0.8	ND .5	ND 1		ND 1
Xylene (ug/l)		ND 1		ND 1	ND 1		ND .5	7.9	ND .5	ND 1			ND 1
Methylene Chloride (ug/l)		ND 1		ND 1	ND 1	ND 1	ND 1	ND .5	2.6	1.2	ND 1		ND 1

Note: ND 1 = Compound was not detected at 1 ug/l.

TABLE 8
WATER QUALITY DATA
MONITORING WELL #7
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

COMPOUND	DATE SAMPLED												
	2/85-3/85	7/85-8/85	3/86	5/86	7/86	9/86	12/86	3/87	6/87-7/87	10/87	2/88	5/88	6/88
EPA Indicator Measurement (CFR 40 265.92)													
pH (units)		6.3	7.3		7.4	7.2	7.3	6.5	6.8	7.3	8.94		6.95
TOC (mg/l)		260	6.5		5	17	ND 3	43	7	5	2		4.9
TOX (mg/l)		0.081	ND .08		ND .08	ND .08	ND .08	ND .08	.11	ND .03	.08		0.18
Sp. Cond. (umhos/cm)		2700	1700		1900	5600	5850	3700	3300	5000	8500		2800
Site Specific Indicator Chemicals													
Chromium (total) (mg/l)		ND .03	ND .03		ND .03	ND .03	ND .03	ND .04	ND .04	ND .04	.02	ND .02	0.07
Chromium (HEX) (mg/l)		ND .5	ND .02		ND .02	ND .02	ND .02	ND .02	ND .02	ND .02	ND .1		ND .1
Cadmium (mg/l)		ND .01	ND .009		ND .01	ND .01	ND .01	ND .01	ND .01	ND .02	ND .02		ND .01
Copper (mg/l)			ND .02		ND .02	ND .04	ND .03	ND .02	0.08	ND .02	ND .02		ND .02
Zinc (mg/l)			ND .03		ND .04	ND .04	0.022	ND .03	0.04	ND .03	ND .02		ND .02
Chloride (mg/l)		380	190		280	1800	1700	630	610	1200	1900		570
Nitrate as N (mg/l)		27	5.0		4.3	2.7	4.4	19	25	1.1	ND 0.2		ND .2
Nitrate as NO_3 (mg/l)		120	22		19	12	19.5	82	110	19	ND 1		ND 1
Organic Compounds (EPA Method 624)													
1,1-Dichloroethane (ug/l)		2			8	42	30	7.1	14	6	ND 1		ND 1
1,1-Dichloroethylene (ug/l)		ND 1			2	5	6	ND 5	6	.55	ND 1		ND 1
1,2-Dicholorethane (ug/l)		ND 1			ND 1	2	ND 1	ND 5	ND .5	ND .5	ND 1		ND 1
Benzene (ug/l)		64			ND 1	ND 1	ND 1	ND 5	ND .5	ND .5	ND .7		ND .7
Carbon Tetrachloride (ug/l)		ND 1			ND 1	ND 1	ND 1	ND 5	ND .5	ND .5	ND 1		ND 1
Chloroform (ug/l)		ND 1			ND 1	ND 1	ND 1	8.2	ND .5	ND .5	ND 1		ND 1
Ethyl Benzene (ug/l)		ND 1			4	ND 1	ND 1	1.0	ND .5	ND .5	ND 1		ND 1
Trichlorethylene (ug/l)		29			67	71	70	180	130	35	24		100
Toluene (ug/l)		2			5	ND 1	ND 1	2.2	3.6	ND .5	ND 1		ND 1
Xylene (ug/l)		ND 1			4	ND 1		ND 5	ND .5	ND .5	ND 1		ND 1
Methylene Chloride (ug/l)		ND 1			ND 1	ND 1	ND 1	ND 5	ND .5	1.1	ND 1		ND 1

Note: ND 1 = Chemical was not detected at 1 mg/l.

Note: ND 1 = Compound was not detected at 1 ug/l.

TABLE 9
WATER QUALITY DATA
MONITORING WELL #8
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

COMPOUND	DATE SAMPLED												
	2/85-3/85	7/85-8/85	3/86	5/86	7/86	9/86	12/86	3/87	6/87-7/87	10/87	2/88	5/88	6/88
EPA Indicator Measurement (CFR 40 265.92)													
pH (units)		6.6	7.5		7.4	7.4	7.4	6.9	7.1	7.1	7.23		7.25
TOC (mg/l)		99	7		8	ND 3	ND 3	ND 3	5	ND 3	ND 1		1.5
TOX (mg/l)		0.44	.09		ND .08	.10	.15	ND .08	.19	ND .08	.04		.06
Sp. Cond. (umhos/cm)		2800	1500		1700	1600	1800	2000	2100	1300	1550		1,600
Site Specific Indicator Chemicals													
Chromium (total) (mg/l)		ND .05	ND .03		ND .03	ND .03	ND .03	ND .04	ND .04	ND .04	.03	ND .02	ND .02
Chromium (HEX) (mg/l)		ND .05	ND .02		ND .02	ND .02	ND .02	ND .02	ND .02	ND .02	ND .1		ND .05
Cadmium (mg/l)		ND .01	ND .009		ND .01	ND .01	ND .01	ND .01	ND .01	ND .02	ND .02		ND .01
Copper (mg/l)			ND .02		ND .02	ND .04	ND .03	ND .02	ND .02	ND .02	ND .02		ND .02
Zinc (mg/l)			ND .03		ND .04	ND .08	ND .001	ND .03	ND .03	ND .03	ND .02		0 .05
Chloride (mg/l)			530		170	270	250	300	300	120	140		190
Nitrate as N (mg/l)		1.3	4.2		3.2	2.7	3.2	2.5	2.2	4.3	4.5		3.7
Nitrate as NO_3 (mg/l)		5.8	39		14	12	14.1	11	10	19	20		16
Organic Compounds (EPA Method 624)													
1,1-Dichloroethane (ug/l)			41		76	160	160	55	160	45	50		42
1,1-Dichloroethylene (ug/l)			3		8	17	19	5.6	29	5.5	2.8		6
1,2-Dicholorethane (ug/l)			1		14	14	8	9.5	16	ND .5	ND 1		3
Benzene (ug/l)			ND 1		ND 1	ND 1	ND 1	ND .5	ND .5	ND .5	ND .7		ND .7
Carbon Tetrachloride (ug/l)			ND 1		ND 1	ND 1	8	ND .5	ND .5	ND .5	ND 1		ND 1
Chloroform (ug/l)			ND 1		2	2	2	5.6	ND .5	0.55	ND 1		ND 1
Ethyl Benzene (ug/l)			ND 1		2	ND 1	ND 1	ND .5	ND .5	ND .5	ND 1		ND 1
Trichlorethylene (ug/l)			19		28	52	44	67	51	25	17		27
Toluene (ug/l)			ND 1		3	ND 1	ND 1	2.3	ND .5	ND .5	ND 1		ND 1
Xylene (ug/l)			ND 1		1	ND 1		ND .5	ND .5	ND .5	ND 1		ND 1
Methylene Chloride (ug/l)			5		ND 1	ND 1	ND 1	ND .5	2.4	3.0	ND 1		ND 1

Note: ND 1 = Chemical was not detected at 1 mg/l.

Note: ND 1 = Compound was not detected at 1 ug/l.

TABLE 10
WATER QUALITY DATA
MONITORING WELL #9
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

COMPOUND	DATE SAMPLED												
	2/85-3/85	7/85-8/85	3/86	5/86	7/86	9/86	12/86	3/87	6/87-7/87	10/87	2/88	5/88	6/88
EPA Indicator Measurement (CFR 40 265.92)													
pH (units)		6.4	7.4		7.3	7.0	7.4	6.9	6.8	6.9	7.15		7.0
TOC (mg/l)		210	14		28	2.8	24	ND 3	42	15	3		4.0
TOX (mg/l)		0.13	.26		.12	.28	.37	.37	.48	.28	.16		0.22
Sp. Cond. (umhos/cm)		2200	2800		2000	2400	2675	2500	3200	3100	2075		1950
Site Specific Indicator Chemicals													
Chromium (total) (mg/l)		ND .03	ND .03		ND .03	ND .03	ND .03	ND .04	0.12	.94	1.30	2.42	1.66
Chromium (HEX) (mg/l)		ND .05	ND .02		ND .02	0.05	ND .02	ND .02	0.05	.59	1.30		0.8
Cadmium (mg/l)		ND .01	ND .00		ND .01	ND 1	ND .01	ND .01	ND .01	ND .02	ND .02		ND .01
Copper (mg/l)			ND .02		ND .02	ND .04	ND .03	ND .02	ND .02	ND .02	ND .02		ND .02
Zinc (mg/l)			ND .03		ND .04	ND .08	0.018	ND .03	ND .03	ND .03	ND .02		0 .05
Chloride (mg/l)		300	530		250	720	670	470	640	630	290		290
Nitrate as N (mg/l)		1.4	8.8		3.2	1.4	3.72	4.1	2.9	8.4	7.2		5.0
Nitrate as NO_3 (mg/l)		6.3	39		14	6.2	16.5	18	13	37	32		22

Note: ND 1 = Chemical was not detected at 1 mg/l.

Organic Compounds (EPA Method 624)									
1,1-Dichloroethane (ug/l)	99	50	360	250	110	140	130	40	ND 10
1,1-Dichloroethylene (ug/l)	18	18	200	110	44	72	84	50	29
1,2-Dicholorethane (ug/l)	10	13	90	52	90	69	ND .5	6	90
Benzene (ug/l)	ND 1	ND 1	ND 5	ND 1	ND .5	ND 2.5	ND .5	ND .7	ND 7
Carbon Tetrachloride (ug/l)	ND 1	ND 1	ND 5	ND 1	ND .5	ND 2.5	ND .5	ND 1	ND 10
Chloroform (ug/l)	20	4	30	22	10	19	28	13	ND 10
Ethyl Benzene (ug/l)	ND 1	ND 1	ND 5	ND 1	ND .5	ND 2.5	ND .5	ND 1	ND 10
Trichlorethylene (ug/l)	61	3	550	240	150	160	150	17	120
Toluene (ug/l)	ND 1	ND 1	ND 5	ND 1	0.7	ND 2.5	ND .5	ND 1	ND 10
Xylene (ug/l)	ND 1	ND 1	ND 5		ND .5	ND 2.5	ND .5	ND 1	ND 10
Methylene Chloride (ug/l)	110	ND 1	ND 5	18	29	33	83	35	ND 10

Note: ND 1 = Compound was not detected at 1 ug/l.

TABLE 11
WATER QUALITY DATA
MONITORING WELL #10
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

	DATE SAMPLED												
	2/85-3/85	7/85-8/85	3/86	5/86	7/86	9/86	12/86	3/87	6/87-7/87	10/87	2/88	5/88	6/88
COMPOUND	EPA Indicator Measurement (CFR 40 265.92)												
pH (units)		6.8	7.8		7.6	7.4	7.8	7.4	7.2	7.1	7.51		7.20
TOC (mg/l)		440	10		130	103	135	33.8	158	56	7		29
TOX (mg/l)		0.17	ND .08		ND .08	.14	.15	.20	.62	.18	.06		0.22
Sp. Cond. (umhos/cm)		2100	1300		1600	1400	1550	1600	2100	1900	1355		1800
	Site Specific Indicator Chemicals												
Chromium (total) (mg/l)		ND .03	ND .03		ND .03	ND .03	ND .03	ND .04	ND .04	ND .04	.08	.05	0.05
Chromium (HEX) (mg/l)		ND .5			ND .02	ND .02	ND .02	ND .02	ND .02	ND .02	ND .1		ND .05
Cadmium (mg/l)		ND .01			ND .01	ND .01	ND .01	ND .01	ND .01	ND .02	ND .02		ND .01
Copper (mg/l)			ND .02		ND .02	ND .04	ND .03	ND .02	ND .02	ND .02	ND .02		0.05
Zinc (mg/l)			ND .03		ND .04	ND .08	ND .007	ND .03	ND .03	ND .03	ND .02		0 .35
Chloride (mg/l)			150		120	150	160	160	260	230	100		210
Nitrate as N (mg/l)		ND .1	ND .1		0.1	ND .01	ND .1	ND .1	ND .1	ND .1	ND .2		ND .2
Nitrate as NO_3 (mg/l)		ND 4.4	ND 4.4		0.6	ND .04	ND .4	ND .4	ND .4	ND .4	ND 1		ND 1

Note: ND 1 = Chemical was not detected at 1 mg/l.

	Organic Compounds (EPA Method 624)										
1,1-Dichloroethane (ug/l)	ND 50	2	6	ND 10	20	ND 5	23	21	3.7		32
1,1-Dichloroethylene (ug/l)	ND 50	1	7	14	ND 20	ND 5	41	28	ND 1		21
1,2-Dicholorethane (ug/l)	ND 50	17	86	200	270	63	160	93	15		70
Benzene (ug/l)	ND 50	ND 1	ND 1	ND 10	ND 20	ND 5	ND 2.5	ND .5	ND .7		ND 7
Carbon Tetrachloride (ug/l)	ND 50	ND 1	ND 1	ND 10	ND 20	ND 5	ND 2.5	ND .5	ND 1		ND 10
Chloroform (ug/l)	50	ND 1	ND 1	ND 10	ND 20	ND 5	3.1	2.3	ND 1		ND 10
Ethyl Benzene (ug/l)	6500	68	ND 1	2200	1800	330	2000	360	ND 1		ND 10
Trichlorethylene (ug/l)	250	29	56	93	120	62	160	130	14		90
Toluene (ug/l)	17000	ND 1	ND 1	36	560	ND 5	14	ND .5	ND 1		ND 10
Xylene (ug/l)	20000	ND 1	70	90	600	120	500	ND .5	ND 1		ND 10
Methylene Chloride (ug/l)	100	ND 1	ND 1	ND 10	ND 20	ND 5	13	1.8	ND 1		ND 10

Note: ND 1 = Compound was not detected at 1 ug/l.

TABLE 12
WATER QUALITY DATA
MONITORING WELL #11
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

COMPOUND	DATE SAMPLED												
	2/85-3/85	7/85-8/85	3/86	5/86	7/86	9/86	12/86	3/87	6/87-7/87	10/87	2/88	5/88	6/88
EPA Indicator Measurement (CFR 40 265.92)													
pH (units)		6.6	7.8		7.2	7.3	7.5	7.5	7.4	7.4	7.34		7.45
TOC (mg/l)		54	13		120	156	125	26.8	58	61	12		20
TOX (mg/l)		ND .05	0.1		ND .08	ND .08	.12	.14	.15	ND .08	.07		0.078
Sp. Cond. (umhos/cm)		1600	1600		1700	1600	1800	1700	2100	1600	1895		1500
Site Specific Indicator Chemicals													
Chromium (total) (mg/l)		ND .03	ND .03		ND .03	ND .03	ND .03	ND .04	ND .04	ND .04	.04	ND .02	ND .02
Chromium (HEX) (mg/l)		ND .5			ND .02	ND .02	ND .02	ND .02	ND .02	ND .02	ND .1		ND .05
Cadmium (mg/l)		ND .01	ND .01		ND .01	ND .01	ND .01	ND .01	ND .01	ND .02	ND .02		ND .01
Copper (mg/l)			ND .02		ND .02	ND .04	ND .03	ND .02	ND .02	ND .02	ND .02		ND .01
Zinc (mg/l)			ND .03		ND .04	ND .08	ND .001	ND .03	ND .03	ND .03	ND .02		ND .02
Chloride (mg/l)		220	230		180	230	240	170	270	110	86		120
Nitrate as N (mg/l)		1.2	2.5		1.1	ND 1	0.1	1.2	0.7	1.5	2.2		1.5
Nitrate as NO_3 (mg/l)		5.2	11		4.8	ND .4	0.5	5.5	3.3	6.8	9.6		65
Organic Compounds (EPA Method 624)													
1,1-Dichloroethane (ug/l)			10	4	10	ND 200	ND 100	6.9	12	2.3	2.5		ND 10
1,1-Dichloroethylene (ug/l)			8	2	5	ND 200	ND 100	5.0	11	2.6	2.3		ND 10
1,2-Dicholorethane (ug/l)			8	31	17	ND 200	130	95	21	89	21		ND 10
Benzene (ug/l)			ND 1	3	ND 1	ND 200	ND 100	1.5	ND .5	ND .5	ND .7		ND 7
Carbon Tetrachloride (ug/l)			ND 1	ND 1	ND 1	ND 200	ND 100	ND .5	ND .5	ND .5	ND 1		ND 10
Chloroform (ug/l)			3	3	10	ND 200	ND 100	3.3	3.5	1.0	ND 1		ND 10
Ethyl Benzene (ug/l)			13	1800	2200	6400	3300	ND .5	1200	180	17		ND 10
Trichlorethylene (ug/l)			110	36	76	ND 200	180	46	81	36	20		70
Toluene (ug/l)			ND 1	5400	5200	14000	7500	3.6	360	ND .5	ND 1		ND 10
Xylene (ug/l)			20	4000	1500	10000	3000	220	370	ND .5	ND 1		110
Methylene Chloride (ug/l)			ND 1	ND 1	ND 1	ND 200	ND 100	1.8	8.4	ND .5	3		ND 10

Note: ND 1 = Chemical was not detected at 1 mg/l.

Note: ND 1 = Compound was not detected at 1 ug/l.

TABLE 13
CHEMICAL ANALYSIS OF SPLIT SAMPLES
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

Micrograms Per Liter
(µg/l; ppb)

	MW 4		MW 4A		MW 10		MW 11	
COMPOUND	C.R.L.	B & C	C.R.L.	B & C	C.R.L.	B & C	C.R.L.	B & C
Choromethane	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
Bromomethane	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
Vinyl Chloride	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
Chloroethane	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
Methylene Chloride	110	60	100	79	ND 10	ND .5	ND 10	ND .5
1,1-Dichloroethene	60	57	ND 10	ND .5	21	23	ND 10	4.5
1,1-Dichloroethane	130	130	ND 10	ND .5	32	43	ND 10	7.7
Trans-1,2-Dichloroethene	26	15	ND 20	ND .5	ND 10	ND .5	ND 10	ND .5
Chloroform	23	13	ND 20	ND .5	ND 10	2.5	ND 10	1.4
1,2-Dichloroethane	90	86	ND 10	ND .5	70	87	ND 10	46
1,1,1-Trichloroethane	ND 10	ND 5	ND 10	ND .5	13	11	ND 10	ND .5
Carbon Tetrachloride	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
Trichlorofluoromethane	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
1,2-Dichloropropane	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	30	ND .5
Trichloroethene	250	330	20	34	90	120	70	81
Dibromochloromethane	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
1,1,2-Trichloroethane	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
Cis-1,3-Dichloropropene	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
2-Chloroethyl Vinyl Ether	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
Bromoform	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
Tetrachloroethene	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
1,1,2,2-Tetrachloroethane	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
Chlorobenzene	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
Bromodichloromethane	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
1,2-Dichlorobenzene	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
1,3-Dichlorobenzene	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
1,4-Dichlorobenzene	ND 10	ND 5	ND 10	ND .5	ND 10	ND .5	ND 10	ND .5
Benzene	20	ND 5	ND 7	ND .5	ND 7	ND .5	ND 7	ND .5
Toluene	90	130	ND 10	ND .5	ND 10	ND .5	ND 10	.7
Ethyl Benzene	40	48	ND 10	ND .5	ND 10	7.6	ND 10	ND .5
Total Xylenes	120	160	ND 10	ND .5	ND 10	ND .5	110	110

NOTE: ND 1 = Compound was not detected at 1 µg/l.
B & C = Brown & Caldwell Laboratories

TABLE 14
SEQUENCY OF SAMPLING
SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

MONITORING WELL NO.	PARAMETERS						
	1,1-DI-CHLOROETHANE (µg/l)	1,1-DICHLOR-OETHYLENE (µg/l)	ETHYL BENZENE (µg/l)	TRICHLORO-ETHYLENE (µg/l)	TOLUENE (µg/l)	CHLOROFORM (µg/l)	METHYLENE CHLORIDE (µg/l)
QC 2067	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
MW 1	ND 1	ND 1	ND 1	15	ND 1	ND 1	ND 1
MW 2	ND 1	ND 1	ND 1	23	ND 1	ND 1	ND 1
MW 5	ND 1	ND 1	ND 1	18	ND 1	18	ND 1
QC 2093	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
MW 7	2.5	2.3	ND 1	20	ND 1	21	3
MW 6B	ND 1	ND 1	ND 1	21	ND 1	ND 1	ND 1
MW 8	42	6	ND 1	27	ND 1	ND 1	ND 1
QC 2119	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
MW 9	ND 10	29	ND 1	120	ND 1	ND 10	ND 10
MW 3	ND 50	ND 50	1700	150	550	ND 50	ND 50
MW 4	130	60	40	250	90	23	110
QC 2144	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
MW 11	ND 10	ND 10	ND 10	70	ND 10	ND 10	ND 10
MW 10	32	21	ND 10	90	ND 10	ND 10	ND 10
MW 4A	ND 10	ND 10	ND 10	20	ND 10	ND 10	100
QC 2176	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1

NOTES: Concentrations are in µg/l (ppb).
ND .5 = Compound was not detected at 1 µg/l.
ND .5 = Compound was detected at 1 µb/l.

TABLE 15

CHEMICAL ANALYSIS OF SPIKED SAMPLES

SOUTHERN CALIFORNIA CHEMICAL

PROJECT 50-1014-07

	A.T.I.	B & C	
COMPOUND	Spiked Concentration	Analyzed Concentration	% Recovery
Toluene (µg/l)	480	560	112
Ethyl Benzene (µg/l)	460	510	111
Chromium (mg/l)	.45	.48	107

NOTE: A.T.I. = Analytical Technologies, Inc.
B & C = Brown & Caldwell Laboratories
C.R.L. = Chemical Research Laboratories

TABLE 16
GROUNDWATER LEVEL ELEVATIONS

SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

(feet MSL)

Well Number	Well Head Elevation (feet MSL)	(Feet Below Ground Surface) Well Depth	Perforated Interval	2/22/85-3/12/85	4/9/85	7/24/85-8/5/85	8/19/85	9/20/85	3/19/86	7/9/86	9/24/86	12/17/86	3/31/87	7/1/87	10/17/87	2/2/88
1	152.6	62.5	42.5-62.5	108.49	108.48	109.66	108.16	106.05	103.40	107.78	105.15	103.65	103.71	103.57	100.09	100.21
2	151.56	74.0	44-74	107.31	107.72	109.21	107.56	105.49	102.44	107.04	104.05	102.96	106.58	103.95	98.85	99.24
3	151.62	75.0	45-75	106.37	107.52	108.37	106.65	104.46	101.22	106.03	103.15	102.07	102.96	101.87	97.77	98.22
4	149.76	75.0	45-75	105.76	108.11	108.36	105.16	104.50	101.42	105.94	102.98	101.81	101.78	102.95	98.76	98.21
4A	152.49	107.0	87-107			108.84	109.43	104.49	102.67	107.29	104.29	102.09		104.19	98.92	98.47
5	153.21	75.0	45-75	105.71	106.02	107.68	106.03	103.84	100.46	105.40	102.49	101.41	101.37	98.51	96.24	97.52
6A	149.31	30.0	10-30		119.39		120.91									
6B	149.46	77.0	47-77	106.46	106.80		107.81	104.92	101.48	106.02	103.21	102.16	101.95	103.11	98.28	98.44
7	149.27	75.0	45-75			107.48	105.34	104.33	101.07	105.73	102.63	101.57	101.52	99.20	97.75	98.22
8	149.53	71.0	41-71			107.95	106.86	104.78	101.65	106.26	103.17	101.98	101.68	101.52	98.12	98.19
9	151.14	77.0	47-77			108.35	106.98	104.25	102.14	106.72	103.64	102.74	104.02	103.53	98.56	98.85
10	151.60	75.0	45-75			107.88	106.94	104.87	102.80	106.26	103.15	102.40	102.62	102.14	98.01	98.69
11	152.80	75.5	55-75			108.38	107.17	105.03	101.96	106.61	103.34	102.65	102.91	102.41	98.21	98.97

Note: MSL = Elevations in feet above mean sea level.

TABLE 16
GROUNDWATER LEVEL ELEVATIONS
(cont.)

SOUTHERN CALIFORNIA CHEMICAL
PROJECT 50-1014-03

(feet MSL)

Well Number	Well Head Elevation (feet MSL)	(Feet Below Ground Surface) Well Depth	Perforated Interval	6/15/88
1	152.6	62.5	42.5-62.5	100.35
2	151.56	74.0	44-74	98.96
3	151.76	75.0	45-75	98.72
4	149.76	75.0	45-75	98.56
4A	152.49	107.0	87-107	99.44
5	153.21	75.0	45-75	97.92
6A	149.31	30.0	10-30	
6B	149.46	77.0	47-77	98.74
7	149.27	75.0	45-75	98.32
8	149.53	71.0	41-71	98.62
9	151.14	77.0	47-77	99.26
10	151.60	75.0	45-75	99.15
11	152.80	75.5	55-75	99.50

Note: MSL = Elevations in feet above mean sea level.

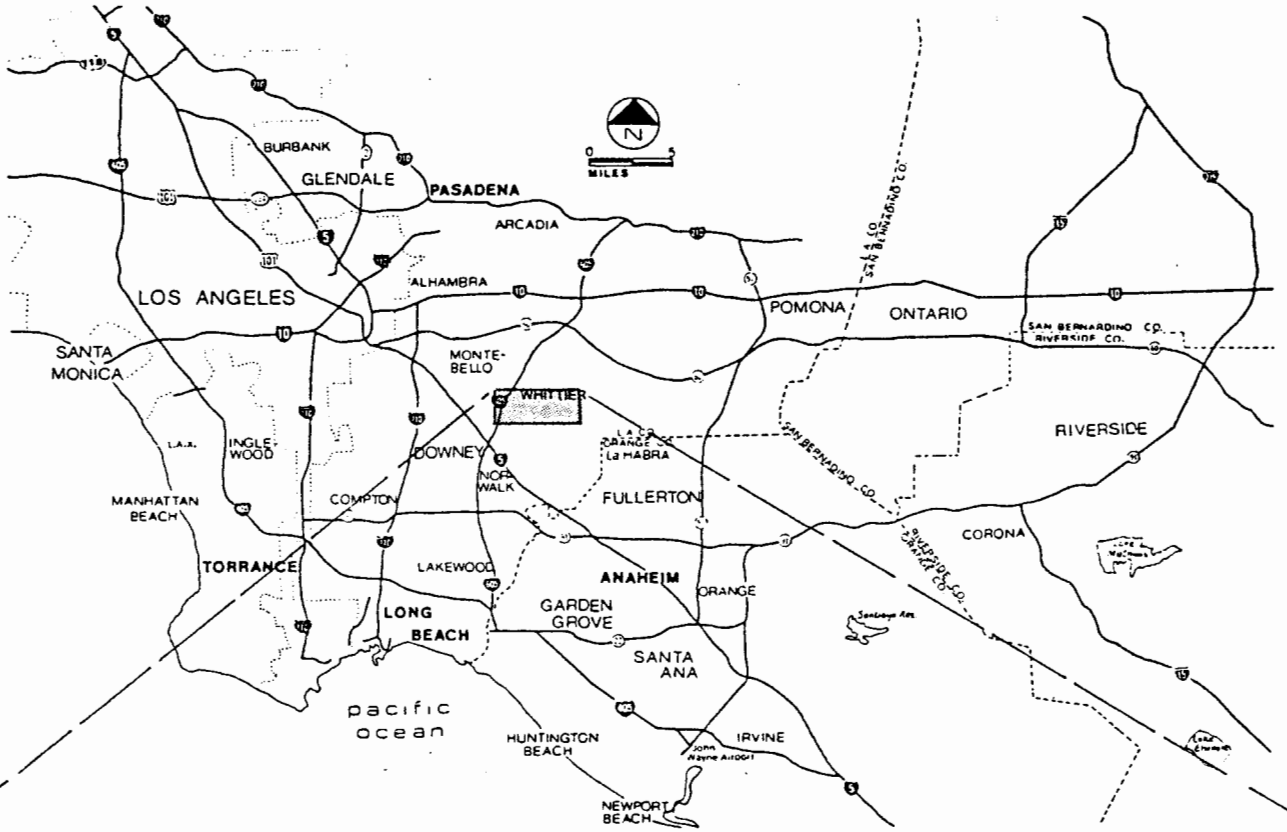
TABLE 17
BACKGROUND VALUES
QUARTERLY SAMPLING REPORT
JUNE 1988
SOUTHERN CALIFORNIA CHEMICAL
August 1988
Project 50-1014-03

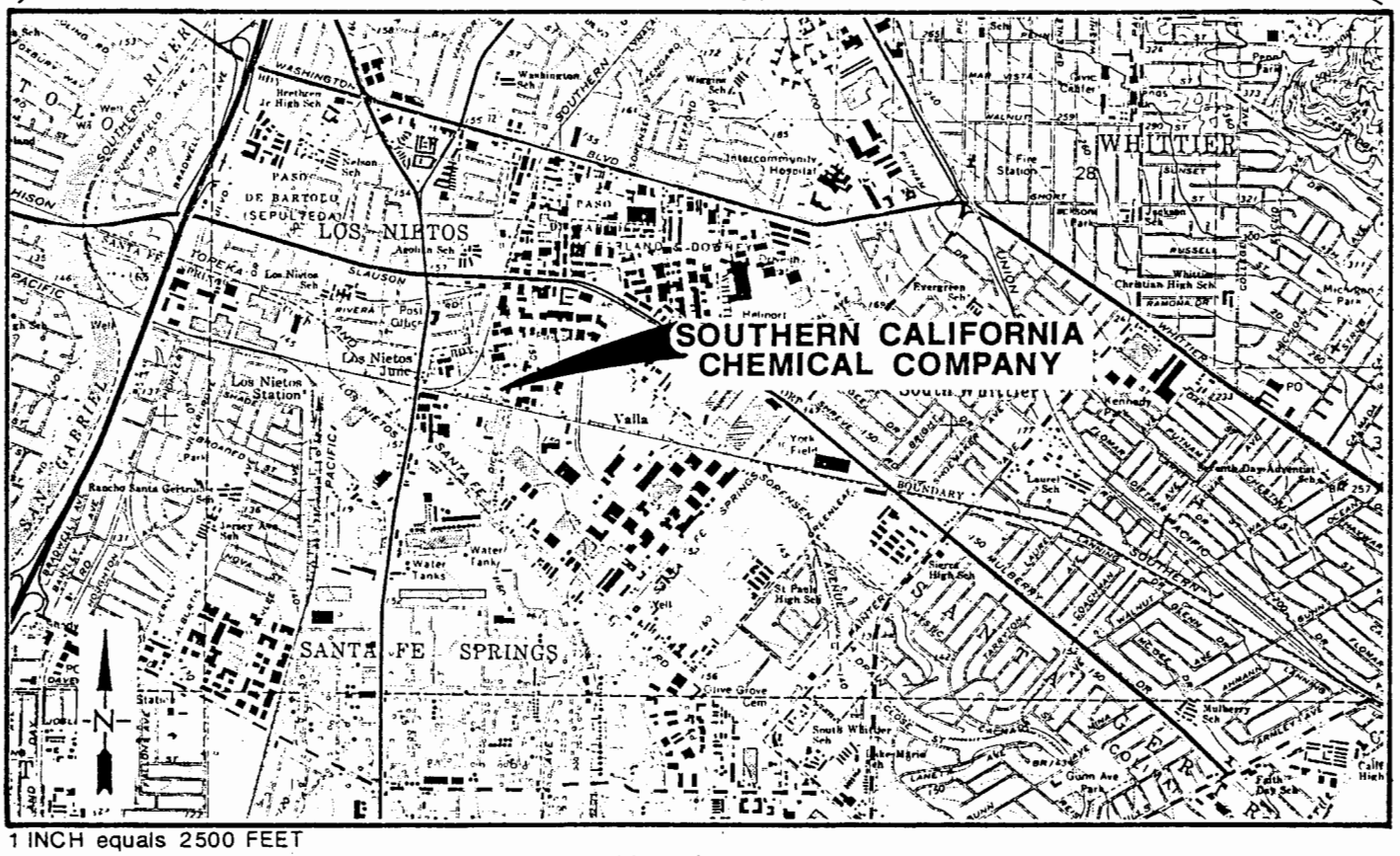
PARAMETER	MEAN (x_b)	VARIANCE (S^2_b)	S_b
$\lvert H_3O^+ \rvert$ (moles/l); pH	5.78×10^{-8}; 7.2	$1.65 \times 10^{-.5}$; -	4.06×10^{-8}; 7.4
TOC (mg/l)	2.6 mg/l	464.9	21.6
TOX (mg/l)	ND 0.075	1.36 x 10	1.17×10^{-2}
SPECIFIC CONDUCTIVITY (μmhos/cm)	2435.8	433771.9	658.6

TABLE 18
TEST STATISTIC AND CRITICAL STATISTIC VALUES
QUARTERLY SAMPLING REPORT
JUNE 1988
SOTHERN CALIFORNIA CHEMICAL
August 1988
Project 50-1014-03

MONITORING WELL	pH t*	TOC t*	TOX t*	SPECIFIC CONDUCTIVITY t*
1	0.2138	-0.2385	-0.0102	0.0270
2	-0.0895	-0.1107	-0.0119	-0.3941
3	0.1476	0.7887	0.0456	-0.1414
4	1.532	0.4805	0.1811	1.4588
4A	-0.1523	-0.2385	0.0207	-0.3730
5	0.1476	0.0182	0.0152	-0.4362
6B	0.1476	-0.2385	-0.0737	-0.4783
7	0.3703	-0.1885	0.0290	0.1534
8	0.0109	-0.2322	-0.0041	-0.3520
9	-0.3948	-0.2001	0.401	-0.2046
10	0.0362	0.1210	0.401	-0.2677
11	-0.1523	0.0054	0.0008	-0.3941
t_c	4.609	4.609	4.609	4.609

FIGURES





1 INCH equals 2500 FEET
Map reduced from a portion of U.S.G.S. 7.5' topographic series, Whittier, California Quadrangle.

KLEINFELDER

Project Number 50-1014-03 August 1988

SOUTHERN CALIFORNIA CHEMICAL COMPANY
Santa Fe Springs, California

SITE LOCATION MAP

FIGURE
1

KLEINFELDER

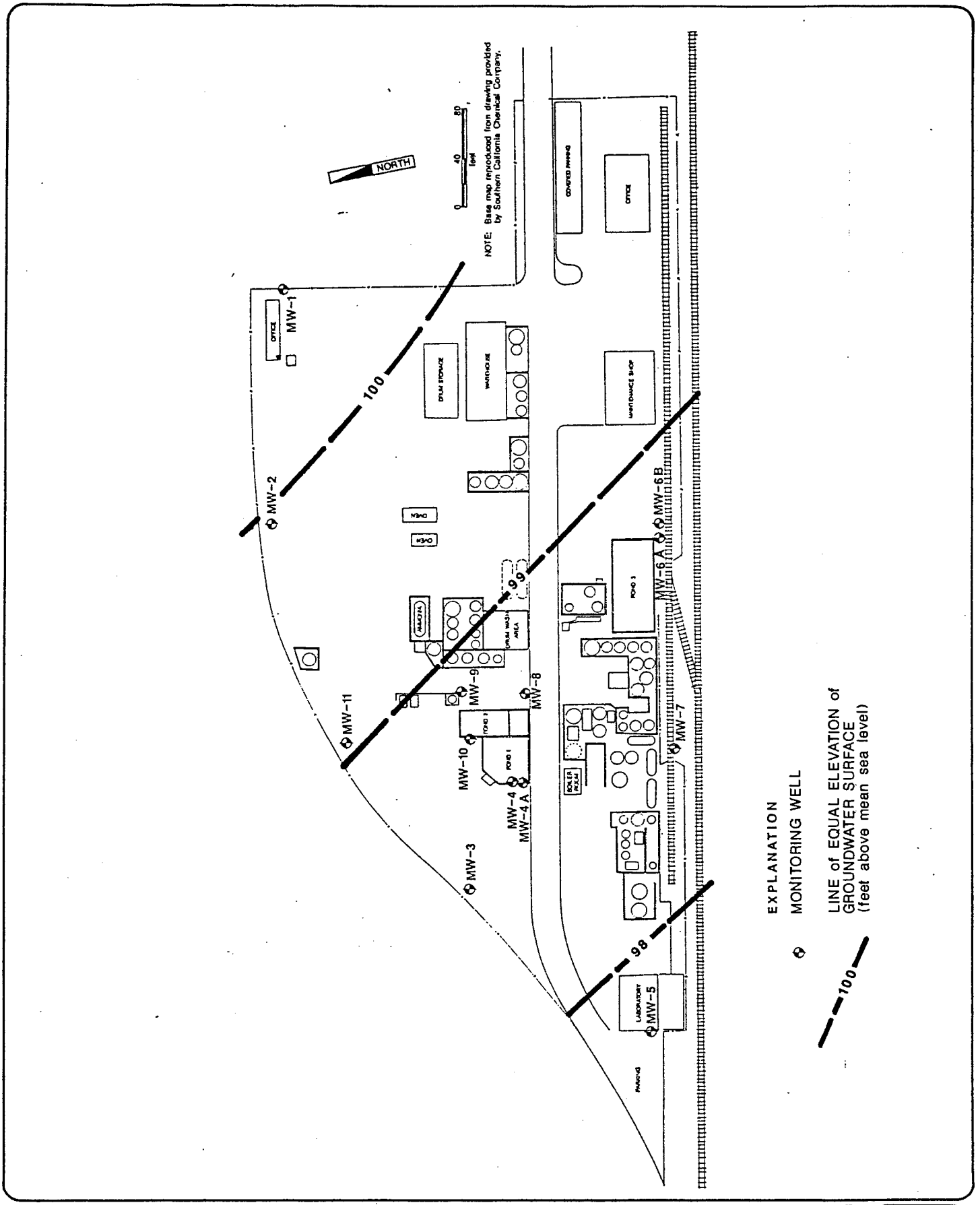
Project Number 50-1014-03 August 1988

SOUTHERN CALIFORNIA CHEMICAL COMPANY
Santa Fe Springs, California

MONITORING WELL LOCATION MAP

FIGURE

2



KLEINFELDER

Project Number 50-1014-03 August 1988

SOUTHERN CALIFORNIA CHEMICAL COMPANY
Santa Fe Springs, California

GROUNDWATER CONTOUR MAP

FIGURE
3

KLEINFELDER

Project Number 50-1014-03 August 1988

SOUTHERN CALIFORNIA CHEMICAL COMPANY
Santa Fe Springs, California

CONCENTRATIONS of ETHYL BENZENE IN SHALLOW GROUNDWATER

FIGURE 4

EXPLANATION

MONITORING WELL, estimated location
1700 with concentration of ethyl benzene in shallow groundwater (ug/l, micrograms per liter)

nd = non-detected

KLEINFELDER

Project Number 50-1014-03 August 1988

SOUTHERN CALIFORNIA CHEMICAL COMPANY
Santa Fe Springs, California

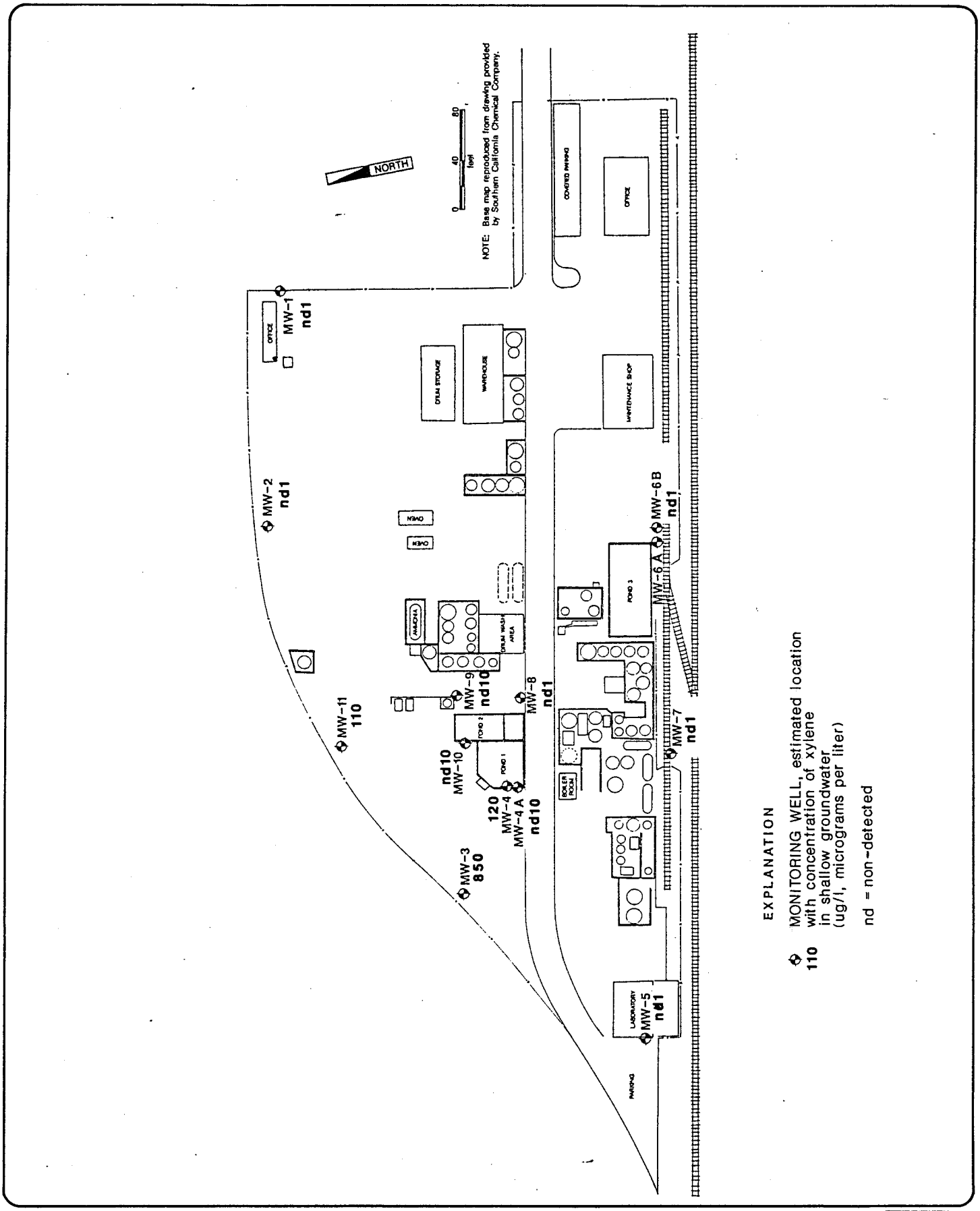
CONCENTRATIONS of TOLUENE IN SHALLOW GROUNDWATER

FIGURE 5

EXPLANATION

◈ 550 MONITORING WELL, estimated location with concentration of toluene in shallow groundwater (ug/l, micrograms per liter)

nd = non-detected



KLEINFELDER

Project Number 50-1014-03 August 1988

SOUTHERN CALIFORNIA CHEMICAL COMPANY
Santa Fe Springs, California

CONCENTRATIONS of XYLENE IN SHALLOW GROUNDWATER

FIGURE

6

APPENDIX A

ANALYTICAL RESULTS

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458

July 7, 1988

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

ANALYSIS NO.: 816930-001/011
ANALYSES: Miscellaneous
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
PROJECT: #50-1014-03

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 816930-001/011 shown above.

Eleven liquid samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

Please note that ND( ) means not detected at the detection limit expressed within the parentheses.

Velma Forbes
REVIEWED

APPROVED

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

ANALYSIS NO.: 816930-001/011
ANALYSES: Miscellaneous
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
PROJECT: #50-1014-03

The following tests were performed on the samples received:

TEST	METHOD	REFERENCE	COMMENTS
Halogenated Volatile Organics (Liquid)	EPA 601	EPA 600[1], 1982	GC/Hall Detector
Aromatic Volatile Organics (Liquid)	EPA 602	EPA 600[1], 1982	GC/PID Detector
Total Organic Carbon	EPA 9060	SW 846, 1986	Infrared Detector
Total Organic Halogen	EPA 9020	SW 846, 1986	Carbon Adsorption, Microcoulometric-Titration Detector
Metals (Total)	EPA 6010	SW 846, 1986	ICAP
Chromium, Hexavalent	EPA 7196	SW 846, 1986	Spectrophotometer
Nitrate	EPA 300.0	EPA 600[2]	IC
pH	EPA 9040	SW 846, 1986	pH meter
Specific Conductance	EPA 9050	SW 846, 1986	Conductivity meter
Chloride	EPA 300.0	EPA 600[2]	IC

[1]Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

[2]Methods for Chemical Analysis of Water and Wastes.

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458

LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

ANALYSIS NO.: 816930-001/011
ANALYSES: Miscellaneous
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
PROJECT: #50-1014-03

QA/QC SUMMARY

Date	Parameter(method)	Average Matrix Spike Recovery%	Acceptable Range%	Relative Percent Difference	Acceptable Range%
6/21/88	Total Organic Carbon (EPA 9060)	105	79-119	2	20
6/23/88	Chloride (EPA 300.0)	104	87-119	2	12
6/23/88	Nitrate (EPA 300.0)	100	87-123	1	12
6/27/88	Total Organic Halogen (EPA 9020)	78	56-127	22	25
6/27/88	Cadmium (EPA 6010)	129	64-136	3	28
6/27/88	Chromium (EPA 6010)	131	48-159	3	47
6/27/88	Copper (EPA 6010)	108	58-127	3	37
6/27/88	Zinc (EPA 6010)	124	53-144	3	36
6/22/88	1,1-Dichloroethene (EPA 601)	97	60-120	12	40
6/22/88	Trichloroethene (EPA 601)	116	60-120	6	40
6/22/88	Chlorobenzene (EPA 601)	87	60-120	8	40
6/22/88	Toluene (EPA 602)	91	60-120	12	40
6/22/88	Ethylbenzene (EPA 602)	96	60-120	13	40
6/22/88	Xylenes (EPA 602)	95	60-120	17	40
06/29/88	Chromium, Hexavalent (EPA 7196)	100	60-130	4	40

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-8-2111/2112

ANALYSIS NO.: 816930-002
ANALYSES: EPA Method 602
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT
Benzene	ND	ND	0.0007
Toluene	ND	ND	0.001
Ethylbenzene	ND	ND	0.001
Total Xylenes	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-00-2119/2120

ANALYSIS NO.: 816930-003
ANALYSES: EPA Method 602
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT
Benzene	ND	ND	0.0007
Toluene	ND	ND	0.001
Ethylbenzene	ND	ND	0.001
Total Xylenes	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-9-2121/2122

ANALYSIS NO.: 816930-004
ANALYSES: EPA Method 602
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT
Benzene	ND	ND	0.007
Toluene	ND	ND	0.01
Ethylbenzene	ND	ND	0.01
Total Xylenes	ND	ND	0.01

Note: Higher detection limit is due to matrix interference.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-3-2129/2130

ANALYSIS NO.: 816930-005
ANALYSES: EPA Method 602
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT*
Benzene	ND	ND	0.035
Toluene	0.55	ND	0.050
Ethylbenzene	1.7	ND	0.050
Total Xylenes	0.85	ND	0.050

*Note: Higher detection limit due to sample matrix.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-4A-2137/2138

ANALYSIS NO.: 816930-006
ANALYSES: EPA Method 602
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT*
Benzene	0.02	ND	0.007
Toluene	0.09	ND	0.10
Ethylbenzene	0.04	ND	0.10
Total Xylenes	0.12	ND	0.10

*Note: Higher detection limit due to sample matrix.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-00-2144/2145

ANALYSIS NO.: 816930-007
ANALYSES: EPA Method 602
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT
Benzene	ND	ND	0.0007
Toluene	ND	ND	0.001
Ethylbenzene	ND	ND	0.001
Total Xylenes	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-11-2146/2147

ANALYSIS NO.: 816930-008
ANALYSES: EPA Method 602
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT*
Benzene	ND	ND	0.007
Toluene	ND	ND	0.010
Ethylbenzene	ND	ND	0.010
Total Xylenes	0.11	ND	0.010

*Note: Higher detection limit due to sample matrix.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-10-2156/2157

ANALYSIS NO.: 816930-009
ANALYSES: EPA Method 602
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT*
Benzene	ND	ND	0.007
Toluene	ND	ND	0.01
Ethylbenzene	ND	ND	0.01
Total Xylenes	ND	ND	0.01

*Note: Higher detection limit is due to matrix interference.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-4-2166/2167

ANALYSIS NO.: 816930-010
ANALYSES: EPA Method 602
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT*
Benzene	ND	ND	0.007
Toluene	ND	ND	0.010
Ethylbenzene	ND	ND	0.010
Total Xylenes	ND	ND	0.010

*Note: Higher detection limit is due to matrix interference.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-00-2176/2177

ANALYSIS NO.: 816930-011
ANALYSES: EPA Method 602
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT
Benzene	ND	ND	0.0007
Toluene	ND	ND	0.001
Ethylbenzene	ND	ND	0.001
Total Xylenes	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-6-2103/2104

ANALYSIS NO.: 816930-001
ANALYSES: EPA Method 601
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	0.001
Bromomethane	ND	ND	0.001
Vinyl Chloride	ND	ND	0.001
Chloroethane	ND	ND	0.001
Methylene Chloride	ND	ND	0.001
1,1-Dichloroethene	ND	ND	0.001
1,1-Dichloroethane	ND	ND	0.001
Trans-1,2-Dichloroethene	ND	ND	0.001
Chloroform	ND	ND	0.001
1,2-Dichloroethane	ND	ND	0.001
1,1,1-Trichloroethane	ND	ND	0.001
Carbon Tetrachloride	ND	ND	0.001
Trichlorofluoromethane	ND	ND	0.001
1,2-Dichloropropane	ND	ND	0.001
Trans-1,3-Dichloropropene	ND	ND	0.001
Trichloroethene	0.021	ND	0.001
Dibromochloromethane	ND	ND	0.001
1,1,2-Trichloroethane	ND	ND	0.001
cis-1,3-Dichloropropene	ND	ND	0.001
2-Chloroethyl Vinyl Ether	ND	ND	0.001
Bromoform	ND	ND	0.001
Tetrachloroethene	0.002	ND	0.001
1,1,2,2-Tetrachloroethane	ND	ND	0.001
Chlorobenzene	ND	ND	0.001
Bromodichloromethane	ND	ND	0.001
1,2-Dichlorobenzene	ND	ND	0.001
1,3-Dichlorobenzene	ND	ND	0.001
1,4-Dichlorobenzene	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-8-2111/2112

ANALYSIS NO.: 816930-002
ANALYSES: EPA Method 601
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	0.001
Bromomethane	ND	ND	0.001
Vinyl Chloride	ND	ND	0.001
Chloroethane	ND	ND	0.001
Methylene Chloride	ND	ND	0.001
1,1-Dichloroethene	0.006	ND	0.001
1,1-Dichloroethane	0.042	ND	0.001
Trans-1,2-Dichloroethene	0.008	ND	0.001
Chloroform	ND	ND	0.001
1,2-Dichloroethane	0.003	ND	0.001
1,1,1-Trichloroethane	ND	ND	0.001
Carbon Tetrachloride	ND	ND	0.001
Trichlorofluoromethane	ND	ND	0.001
1,2-Dichloropropane	ND	ND	0.001
Trans-1,3-Dichloropropene	ND	ND	0.001
Trichloroethene	0.027	ND	0.001
Dibromochloromethane	ND	ND	0.001
1,1,2-Trichloroethane	ND	ND	0.001
cis-1,3-Dichloropropene	ND	ND	0.001
2-Chloroethyl Vinyl Ether	ND	ND	0.001
Bromoform	ND	ND	0.001
Tetrachloroethene	ND	ND	0.001
1,1,2,2-Tetrachloroethane	ND	ND	0.001
Chlorobenzene	ND	ND	0.001
Bromodichloromethane	ND	ND	0.001
1,2-Dichlorobenzene	ND	ND	0.001
1,3-Dichlorobenzene	ND	ND	0.001
1,4-Dichlorobenzene	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-00-2119/2120

ANALYSIS NO.: 816930-003
ANALYSES: EPA Method 601
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	0.001
Bromomethane	ND	ND	0.001
Vinyl Chloride	ND	ND	0.001
Chloroethane	ND	ND	0.001
Methylene Chloride	ND	ND	0.001
1,1-Dichloroethene	ND	ND	0.001
1,1-Dichloroethane	ND	ND	0.001
Trans-1,2-Dichloroethene	ND	ND	0.001
Chloroform	ND	ND	0.001
1,2-Dichloroethane	ND	ND	0.001
1,1,1-Trichloroethane	ND	ND	0.001
Carbon Tetrachloride	ND	ND	0.001
Trichlorofluoromethane	ND	ND	0.001
1,2-Dichloropropane	ND	ND	0.001
Trans-1,3-Dichloropropene	ND	ND	0.001
Trichloroethene	ND	ND	0.001
Dibromochloromethane	ND	ND	0.001
1,1,2-Trichloroethane	ND	ND	0.001
cis-1,3-Dichloropropene	ND	ND	0.001
2-Chloroethyl Vinyl Ether	ND	ND	0.001
Bromoform	ND	ND	0.001
Tetrachloroethene	ND	ND	0.001
1,1,2,2-Tetrachloroethane	ND	ND	0.001
Chlorobenzene	ND	ND	0.001
Bromodichloromethane	ND	ND	0.001
1,2-Dichlorobenzene	ND	ND	0.001
1,3-Dichlorobenzene	ND	ND	0.001
1,4-Dichlorobenzene	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-9-2121/2122

ANALYSIS NO.: 816930-004
ANALYSES: EPA Method 601
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT*
Chloromethane	ND	ND	0.010
Bromomethane	ND	ND	0.010
Vinyl Chloride	ND	ND	0.010
Chloroethane	ND	ND	0.010
Methylene Chloride	ND	ND	0.010
1,1-Dichloroethene	0.029	ND	0.010
1,1-Dichloroethane	ND	ND	0.010
Trans-1,2-Dichloroethene	ND	ND	0.010
Chloroform	ND	ND	0.010
1,2-Dichloroethane	0.09	ND	0.010
1,1,1-Trichloroethane	ND	ND	0.010
Carbon Tetrachloride	ND	ND	0.010
Trichlorofluoromethane	ND	ND	0.010
1,2-Dichloropropane	ND	ND	0.010
Trans-1,3-Dichloropropene	ND	ND	0.010
Trichloroethene	0.12	ND	0.010
Dibromochloromethane	ND	ND	0.010
1,1,2-Trichloroethane	ND	ND	0.010
cis-1,3-Dichloropropene	ND	ND	0.010
2-Chloroethyl Vinyl Ether	ND	ND	0.010
Bromoform	ND	ND	0.010
Tetrachloroethene	ND	ND	0.010
1,1,2,2-Tetrachloroethane	ND	ND	0.010
Chlorobenzene	ND	ND	0.010
Bromodichloromethane	ND	ND	0.010
1,2-Dichlorobenzene	ND	ND	0.010
1,3-Dichlorobenzene	ND	ND	0.010
1,4-Dichlorobenzene	ND	ND	0.010

*Note: Higher detection limit due to sample matrix.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-3-2129/2130

ANALYSIS NO.: 816930-005
ANALYSES: EPA Method 601
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT*
Chloromethane	ND	ND	0.050
Bromomethane	ND	ND	0.050
Vinyl Chloride	ND	ND	0.050
Chloroethane	ND	ND	0.050
Methylene Chloride	ND	ND	0.050
1,1-Dichloroethene	ND	ND	0.050
1,1-Dichloroethane	ND	ND	0.050
Trans-1,2-Dichloroethene	ND	ND	0.050
Chloroform	ND	ND	0.050
1,2-Dichloroethane	ND	ND	0.050
1,1,1-Trichloroethane	ND	ND	0.050
Carbon Tetrachloride	ND	ND	0.050
Trichlorofluoromethane	ND	ND	0.050
1,2-Dichloropropane	ND	ND	0.050
Trans-1,3-Dichloropropene	ND	ND	0.050
Trichloroethene	0.15	ND	0.050
Dibromochloromethane	ND	ND	0.050
1,1,2-Trichloroethane	ND	ND	0.050
cis-1,3-Dichloropropene	ND	ND	0.050
2-Chloroethyl Vinyl Ether	ND	ND	0.050
Bromoform	ND	ND	0.050
Tetrachloroethene	ND	ND	0.050
1,1,2,2-Tetrachloroethane	ND	ND	0.050
Chlorobenzene	ND	ND	0.050
Bromodichloromethane	ND	ND	0.050
1,2-Dichlorobenzene	ND	ND	0.050
1,3-Dichlorobenzene	ND	ND	0.050
1,4-Dichlorobenzene	ND	ND	0.050

*Note: Higher detection limit due to sample matrix.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-4A-2137/2138

ANALYSIS NO.: 816930-006
ANALYSES: EPA Method 601
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT*
Chloromethane	ND	ND	0.010
Bromomethane	ND	ND	0.010
Vinyl Chloride	ND	ND	0.010
Chloroethane	ND	ND	0.010
Methylene Chloride	0.11	ND	0.010
1,1-Dichloroethene	0.06	ND	0.010
1,1-Dichloroethane	0.13	ND	0.010
Trans-1,2-Dichloroethene	0.026	ND	0.010
Chloroform	0.023	ND	0.010
1,2-Dichloroethane	0.09	ND	0.010
1,1,1-Trichloroethane	ND	ND	0.010
Carbon Tetrachloride	ND	ND	0.010
Trichlorofluoromethane	ND	ND	0.010
1,2-Dichloropropane	ND	ND	0.010
Trans-1,3-Dichloropropene	ND	ND	0.010
Trichloroethene	0.25	ND	0.010
Dibromochloromethane	ND	ND	0.010
1,1,2-Trichloroethane	ND	ND	0.010
cis-1,3-Dichloropropene	ND	ND	0.010
2-Chloroethyl Vinyl Ether	ND	ND	0.010
Bromoform	ND	ND	0.010
Tetrachloroethene	ND	ND	0.010
1,1,2,2-Tetrachloroethane	ND	ND	0.010
Chlorobenzene	ND	ND	0.010
Bromodichloromethane	ND	ND	0.010
1,2-Dichlorobenzene	ND	ND	0.010
1,3-Dichlorobenzene	ND	ND	0.010
1,4-Dichlorobenzene	ND	ND	0.010

*Note: Higher detection limit due to sample matrix.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-00-2144/2145

ANALYSIS NO.: 816930-007
ANALYSES: EPA Method 601
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	0.001
Bromomethane	ND	ND	0.001
Vinyl Chloride	ND	ND	0.001
Chloroethane	ND	ND	0.001
Methylene Chloride	ND	ND	0.001
1,1-Dichloroethene	ND	ND	0.001
1,1-Dichloroethane	ND	ND	0.001
Trans-1,2-Dichloroethene	ND	ND	0.001
Chloroform	ND	ND	0.001
1,2-Dichloroethane	ND	ND	0.001
1,1,1-Trichloroethane	ND	ND	0.001
Carbon Tetrachloride	ND	ND	0.001
Trichlorofluoromethane	ND	ND	0.001
1,2-Dichloropropane	ND	ND	0.001
Trans-1,3-Dichloropropene	ND	ND	0.001
Trichloroethene	ND	ND	0.001
Dibromochloromethane	ND	ND	0.001
1,1,2-Trichloroethane	ND	ND	0.001
cis-1,3-Dichloropropene	ND	ND	0.001
2-Chloroethyl Vinyl Ether	ND	ND	0.001
Bromoform	ND	ND	0.001
Tetrachloroethene	ND	ND	0.001
1,1,2,2-Tetrachloroethane	ND	ND	0.001
Chlorobenzene	ND	ND	0.001
Bromodichloromethane	ND	ND	0.001
1,2-Dichlorobenzene	ND	ND	0.001
1,3-Dichlorobenzene	ND	ND	0.001
1,4-Dichlorobenzene	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-11-2146/2147

ANALYSIS NO.: 816930-008
ANALYSES: EPA Method 601
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT*
Chloromethane	ND	ND	0.010
Bromomethane	ND	ND	0.010
Vinyl Chloride	ND	ND	0.010
Chloroethane	ND	ND	0.010
Methylene Chloride	ND	ND	0.010
1,1-Dichloroethene	ND	ND	0.010
1,1-Dichloroethane	ND	ND	0.010
Trans-1,2-Dichloroethene	ND	ND	0.010
Chloroform	ND	ND	0.010
1,2-Dichloroethane	ND	ND	0.010
1,1,1-Trichloroethane	ND	ND	0.010
Carbon Tetrachloride	ND	ND	0.010
Trichlorofluoromethane	ND	ND	0.010
1,2-Dichloropropane	0.03	ND	0.010
Trans-1,3-Dichloropropene	ND	ND	0.010
Trichloroethene	0.07	ND	0.010
Dibromochloromethane	ND	ND	0.010
1,1,2-Trichloroethane	ND	ND	0.010
cis-1,3-Dichloropropene	ND	ND	0.010
2-Chloroethyl Vinyl Ether	ND	ND	0.010
Bromoform	ND	ND	0.010
Tetrachloroethene	ND	ND	0.010
1,1,2,2-Tetrachloroethane	ND	ND	0.010
Chlorobenzene	ND	ND	0.010
Bromodichloromethane	ND	ND	0.010
1,2-Dichlorobenzene	ND	ND	0.010
1,3-Dichlorobenzene	ND	ND	0.010
1,4-Dichlorobenzene	ND	ND	0.010

*Note: Higher detection limit due to sample matrix.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-10-2156/2157

ANALYSIS NO.: 816930-009
ANALYSES: EPA Method 601
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT*
Chloromethane	ND	ND	0.010
Bromomethane	ND	ND	0.010
Vinyl Chloride	ND	ND	0.010
Chloroethane	ND	ND	0.010
Methylene Chloride	ND	ND	0.010
1,1-Dichloroethene	0.021	ND	0.010
1,1-Dichloroethane	0.032	ND	0.010
Trans-1,2-Dichloroethene	ND	ND	0.010
Chloroform	ND	ND	0.010
1,2-Dichloroethane	0.070	ND	0.010
1,1,1-Trichloroethane	0.013	ND	0.010
Carbon Tetrachloride	ND	ND	0.010
Trichlorofluoromethane	ND	ND	0.010
1,2-Dichloropropane	ND	ND	0.010
Trans-1,3-Dichloropropene	ND	ND	0.010
Trichloroethene	0.090	ND	0.010
Dibromochloromethane	ND	ND	0.010
1,1,2-Trichloroethane	ND	ND	0.010
cis-1,3-Dichloropropene	ND	ND	0.010
2-Chloroethyl Vinyl Ether	ND	ND	0.010
Bromoform	ND	ND	0.010
Tetrachloroethene	ND	ND	0.010
1,1,2,2-Tetrachloroethane	ND	ND	0.010
Chlorobenzene	ND	ND	0.010
Bromodichloromethane	ND	ND	0.010
1,2-Dichlorobenzene	ND	ND	0.010
1,3-Dichlorobenzene	ND	ND	0.010
1,4-Dichlorobenzene	ND	ND	0.010

*Note: Higher detection limit due to sample matrix.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-4-2166/2167

ANALYSIS NO.: 816930-010
ANALYSES: EPA Method 601
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT*
Chloromethane	ND	ND	0.010
Bromomethane	ND	ND	0.010
Vinyl Chloride	ND	ND	0.010
Chloroethane	ND	ND	0.010
Methylene Chloride	0.100	ND	0.010
1,1-Dichloroethene	ND	ND	0.010
1,1-Dichloroethane	ND	ND	0.010
Trans-1,2-Dichloroethene	ND	ND	0.010
Chloroform	ND	ND	0.010
1,2-Dichloroethane	ND	ND	0.010
1,1,1-Trichloroethane	ND	ND	0.010
Carbon Tetrachloride	ND	ND	0.010
Trichlorofluoromethane	ND	ND	0.010
1,2-Dichloropropane	ND	ND	0.010
Trans-1,3-Dichloropropene	ND	ND	0.010
Trichloroethene	0.020	ND	0.010
Dibromochloromethane	ND	ND	0.010
1,1,2-Trichloroethane	ND	ND	0.010
cis-1,3-Dichloropropene	ND	ND	0.010
2-Chloroethyl Vinyl Ether	ND	ND	0.010
Bromoform	ND	ND	0.010
Tetrachloroethene	ND	ND	0.010
1,1,2,2-Tetrachloroethane	ND	ND	0.010
Chlorobenzene	ND	ND	0.010
Bromodichloromethane	ND	ND	0.010
1,2-Dichlorobenzene	ND	ND	0.010
1,3-Dichlorobenzene	ND	ND	0.010
1,4-Dichlorobenzene	ND	ND	0.010

*Note: Higher detection limit due to sample matrix.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-00-2176/2177

ANALYSIS NO.: 816930-011
ANALYSES: EPA Method 601
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	0.001
Bromomethane	ND	ND	0.001
Vinyl Chloride	ND	ND	0.001
Chloroethane	ND	ND	0.001
Methylene Chloride	ND	ND	0.001
1,1-Dichloroethene	ND	ND	0.001
1,1-Dichloroethane	ND	ND	0.001
Trans-1,2-Dichloroethene	ND	ND	0.001
Chloroform	ND	ND	0.001
1,2-Dichloroethane	ND	ND	0.001
1,1,1-Trichloroethane	ND	ND	0.001
Carbon Tetrachloride	ND	ND	0.001
Trichlorofluoromethane	ND	ND	0.001
1,2-Dichloropropane	ND	ND	0.001
Trans-1,3-Dichloropropene	ND	ND	0.001
Trichloroethene	ND	ND	0.001
Dibromochloromethane	ND	ND	0.001
1,1,2-Trichloroethane	ND	ND	0.001
cis-1,3-Dichloropropene	ND	ND	0.001
2-Chloroethyl Vinyl Ether	ND	ND	0.001
Bromoform	ND	ND	0.001
Tetrachloroethene	ND	ND	0.001
1,1,2,2-Tetrachloroethane	ND	ND	0.001
Chlorobenzene	ND	ND	0.001
Bromodichloromethane	ND	ND	0.001
1,2-Dichlorobenzene	ND	ND	0.001
1,3-Dichlorobenzene	ND	ND	0.001
1,4-Dichlorobenzene	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-6-2105/2110

ANALYSIS NO.: 816930-001
ANALYSES: Miscellaneous
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/21-27
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

MISCELLANEOUS PARAMETERS

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
Total Organic Carbon (EPA 9060)	ND	ND	1.
Chloride (EPA 300.0)	89.	ND	0.1
Nitrate (EPA 300.0)	32.	ND	1.
Nitrate as Nitrogen (EPA 300.0)	7.3	ND	0.2
Total Organic Halogen (EPA 9020)	ND	ND	0.01
Conductivity (uMHOS/cm) (EPA 120.1)	1,300.	ND	10.
pH (units) (EPA 9040)	7.10	N/A	N/A
Cadmium (EPA 6010)	ND	ND	0.01
Chromium (EPA 6010)	ND	0.03	0.02
Chromium-Hex (EPA 7196)	ND	ND	0.05
Copper (EPA 6010)	ND	0.01	0.02
Zinc (EPA 6010)	0.02	0.03	0.02

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-8-2113/2118

ANALYSIS NO.: 816930-002
ANALYSES: Miscellaneous
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/21-27/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

MISCELLANEOUS PARAMETERS

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
Total Organic Carbon (EPA 9060)	1.5	ND	1.
Chloride (EPA 300.0)	190.	ND	0.1
Nitrate (EPA 300.0)	16.	ND	1.
Nitrate as Nitrogen (EPA 300.0)	3.7	ND	0.2
Total Organic Halogen (EPA 9020)	0.060	ND	0.01
Conductivity (uMHOS/cm) (EPA 120.1)	1,600.	ND	10.
pH (units) (EPA 9040)	7.25	N/A	N/A
Cadmium (EPA 6010)	ND	ND	0.01
Chromium (EPA 6010)	ND	0.03	0.02
Chromium-Hex (EPA 7196)	ND	ND	0.05
Copper (EPA 6010)	ND	0.01	0.02
Zinc (EPA 6010)	0.05	0.03	0.02

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-9-2123/2128

ANALYSIS NO.: 816930-004
ANALYSES: Miscellaneous
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/21-27/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

MISCELLANEOUS PARAMETERS

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
Total Organic Carbon (EPA 9060)	4.0	ND	1.
Chloride (EPA 300.0)	290.	ND	0.1
Nitrate (EPA 300.0)	22.	ND	1.
Nitrate as Nitrogen (EPA 300.0)	5.0	ND	0.2
Total Organic Halogen (EPA 9020)	0.22	ND	0.01
Conductivity (uMHOS/cm) (EPA 120.1)	1,950.	ND	10.
pH (units) (EPA 9040)	7.00	N/A	N/A
Cadmium (EPA 6010)	ND	ND	0.01
Chromium (EPA 6010)	1.66	0.03	0.02
Chromium-Hex (EPA 7196)	0.8	ND	0.6
Copper (EPA 6010)	ND	0.01	0.02
Zinc (EPA 6010)	0.05	0.03	0.02

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-3-2131/2136

ANALYSIS NO.: 816930-005
ANALYSES: Miscellaneous
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/21-27/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

MISCELLANEOUS PARAMETERS

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
Total Organic Carbon (EPA 9060)	81.	ND	1.
Chloride (EPA 300.0)	350.	ND	0.1
Nitrate (EPA 300.0)	12.	ND	1.
Nitrate as Nitrogen (EPA 300.0)	2.7	ND	0.2
Total Organic Halogen (EPA 9020)	0.24	ND	0.01
Conductivity (uMHOS/cm) (EPA 120.1)	2,100.	ND	10.
pH (units) (EPA 9040)	7.10	N/A	N/A
Cadmium (EPA 6010)	ND	ND	0.01
Chromium (EPA 6010)	ND	0.03	0.02
Chromium-Hex (EPA 7196)	ND	ND	0.05
Copper (EPA 6010)	0.02	0.01	0.02
Zinc (EPA 6010)	0.04	0.03	0.02

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-11-2150/2155

ANALYSIS NO.: 816930-008
ANALYSES: Miscellaneous
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/21-27/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

MISCELLANEOUS PARAMETERS

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
Total Organic Carbon (EPA 9060)	20.	ND	1.
Chloride (EPA 300.0)	120.	ND	0.1
Nitrate (EPA 300.0)	6.5	ND	1.
Nitrate as Nitrogen (EPA 300.0)	1.5	ND	0.2
Total Organic Halogen (EPA 9020)	0.078	ND	0.01
Conductivity (uMHOS/cm) (EPA 120.1)	1,500.	ND	10.
pH (units) (EPA 9040)	7.45	N/A	N/A
Cadmium (EPA 6010)	ND	ND	0.01
Chromium (EPA 6010)	ND	0.03	0.02
Chromium-Hex (EPA 7196)	ND	ND	0.05
Copper (EPA 6010)	ND	0.01	0.02
Zinc (EPA 6010)	ND	0.03	0.02

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-10-2160/2165

ANALYSIS NO.: 816930-009
ANALYSES: Miscellaneous
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/21-27/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

MISCELLANEOUS PARAMETERS

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
Total Organic Carbon (EPA 9060)	29.	ND	1.
Chloride (EPA 300.0)	210.	ND	0.1
Nitrate (EPA 300.0)	ND	ND	1.
Nitrate as Nitrogen (EPA 300.0)	ND	ND	0.2
Total Organic Halogen (EPA 9020)	0.22	ND	0.01
Conductivity (uMHOS/cm) (EPA 120.1)	1,800.	ND	10.
pH (units) (EPA 9040)	7.20	N/A	N/A
Cadmium (EPA 6010)	ND	ND	0.01
Chromium (EPA 6010)	0.05	0.03	0.02
Chromium-Hex (EPA 7196)	ND	ND	0.05
Copper (EPA 6010)	0.05	0.01	0.02
Zinc (EPA 6010)	0.35	0.03	0.02

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KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-4-2170/2175

ANALYSIS NO.: 816930-010
ANALYSES: Miscellaneous
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/21-27/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

MISCELLANEOUS PARAMETERS

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
Total Organic Carbon (EPA 9060)	ND	ND	1.
Chloride (EPA 300.0)	100.	ND	0.1
Nitrate (EPA 300.0)	27.	ND	1.
Nitrate as Nitrogen (EPA 300.0)	6.1	ND	0.2
Total Organic Halogen (EPA 9020)	0.15	ND	0.01
Conductivity (uMHOS/cm) (EPA 120.1)	1,550.	ND	10.
pH (units) (EPA 9040)	7.45	N/A	N/A
Cadmium (EPA 6010)	ND	ND	0.01
Chromium (EPA 6010)	ND	0.03	0.02
Chromium-Hex (EPA 7196)	ND	ND	0.05
Copper (EPA 6010)	0.02	0.01	0.02
Zinc (EPA 6010)	ND	0.03	0.02

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-6-2103/2104

ANALYSIS NO.: 816930-001
ANALYSES: EPA Method 602
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT
Benzene	ND	ND	0.0007
Toluene	ND	ND	0.001
Ethylbenzene	ND	ND	0.001
Total Xylenes	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

Sample ID: W-4A-2141/2146

ANALYSIS NO.: 816930-006
ANALYSES: Miscellaneous
DATE SAMPLED: 06/17/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/21-27/88
SAMPLE TYPE: Liquid
PROJECT: #50-1014-03

MISCELLANEOUS PARAMETERS

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
Total Organic Carbon (EPA 9060)	57.	ND	1.
Chloride (EPA 300.0)	1,600.	ND	10.
Nitrate (EPA 300.0)	3.3	ND	1.
Nitrate as Nitrogen (EPA 300.0)	0.75	ND	0.2
Total Organic Halogen (EPA 9020)	0.73	ND	0.01
Conductivity (uMHOS/cm) (EPA 120.1)	5,900.	ND	10.
pH (units) (EPA 9040)	6.55	N/A	N/A
Cadmium (EPA 6010)	0.13	ND	0.01
Chromium (EPA 6010)	218.	0.03	0.2
Chromium-Hex (EPA 7196)	84.	ND	63.
Copper (EPA 6010)	0.04	0.01	0.02
Zinc (EPA 6010)	0.15	0.03	0.02

Chemical Research Laboratories, Inc.
SOUTHERN CALIFORNIA DIVISION
7440 Lincoln Way ● Garden Grove, CA 92641
(714)898-6370 ● FAX: (714)891-5917 ● (800)LAB-1CRL

July 1, 1988

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

ANALYSIS NO.: 816929-001/003
ANALYSES: Miscellaneous
DATE SAMPLED: 06/16/88
DATE SAMPLE REC'D: 06/17/88
PROJECT: 50-1014-03

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 816929-001/003 shown above.

Three liquid samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

Please note that ND( ) means not detected at the detection limit expressed within the parentheses.

REVIEWED

APPROVED

Chemical Research Laboratories, Inc.
SOUTHERN CALIFORNIA DIVISION
7440 Lincoln Way ● Garden Grove, CA 92641
(714)898-6370 ● FAX: (714)891-5917 ● (800)LAB-1CRL

LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

ANALYSIS NO.: 816929-001/003
ANALYSES: Miscellaneous
DATE SAMPLED: 06/16/88
DATE SAMPLE REC'D: 06/17/88
PROJECT: 50-1014-03

The following tests were performed on the samples received:

TEST	METHOD	REFERENCE	COMMENTS
Aromatic Volatile Organics (liquid)	EPA 602	EPA 600[1], 1982	GC/PID Detector
Halogenated Volatile Organics (liquid)	EPA 601	EPA 600[1], 1982	GC/Hall Detector
CAC Metals (Total)	EPA 6010	SW 846, 1986	ICAP
Chloride	EPA 300.0	EPA 600[2], 1984	IC
Total Organic Halogens	EPA 9020	SW 846, 1986	Carbon Adsorption, Microcoulometric-Titration Detector
Total Organic Carbon	EPA 9060	SW 846, 1986	Infrared Detector
pH (liquid)	EPA 9040	SW 846, 1986	pH meter
Specific Conductivity	EPA 9050	SW 86, 1986	Conductivity meter
Nitrate	EPA 300.0	EPA 600[1], 1984	IC

[1]Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

[2]Methods for Chemical Analysis of Water and Wastes.

Chemical Research Laboratories, Inc.
SOUTHERN CALIFORNIA DIVISION
7440 Lincoln Way ● Garden Grove, CA 92641
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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-7-2097/2102

ANALYSIS NO.: 816929-003
ANALYSES: Miscellaneous
DATE SAMPLED: 06/16/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/21-27/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

=MISCELLANEOUS=

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
pH (units) (EPA 9040)	6.95	N/A	N/A
Chloride (EPA 300.0)	570.	ND	0.1
Nitrate (EPA 300.0)	ND	ND	1.
Nitrate as Nitrogen (EPA 300.0)	ND	ND	0.2
Conductivity (uMHOS/cm) (EPA 9050)	2,800.	ND	1.
Total Organic Halogen (EPA 9020)	0.18	ND	0.01
Total Organic Carbon (EPA 9060)	4.9	ND	1.
Cadmium (EPA 6010)	ND	ND	0.01
Chromium (EPA 6010)	0.07	0.03	0.02
Hex, Chromium (EPA 7196)	ND	ND	0.1
Copper (EPA 6010)	0.29	0.01	0.02
Zinc (EPA 6010)	0.17	0.02	0.02

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-5-2087/2092

ANALYSIS NO.: 816929-001
ANALYSES: Miscellaneous
DATE SAMPLED: 06/16/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/21-27/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

=MISCELLANEOUS=

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
pH (units) (EPA 9040)	7.10	N/A	N/A
Chloride (EPA 300.0)	91.	ND	0.1
Nitrate (EPA 300.0)	14.	ND	1.
Nitrate as Nitrogen (EPA 300.0)	3.1	ND	0.2
Conductivity (uMHOS/cm) (EPA 9050)	1,400.	ND	1.
Total Organic Halogen (EPA 9020)	0.13	ND	0.01
Total Organic Carbon (EPA 9060)	21.	ND	1.
Cadmium (EPA 6010)	ND	ND	0.01
Chromium (EPA 6010)	0.05	0.03	0.02
Hex, Chromium (EPA 7196)	ND	ND	0.1
Copper (EPA 6010)	ND	0.01	0.02
Zinc (EPA 6010)	ND	0.02	0.02

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-5-2085/2086

ANALYSIS NO.: 816929-001
ANALYSES: EPA Method 602
DATE SAMPLED: 06/16/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT
Benzene	ND	ND	0.0007
Toluene	ND	ND	0.001
EthylBenzene	ND	ND	0.001
Total Xylenes	ND	ND	0.001

The Report Cover Letter is an integral part of this report.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-00-2093/2094

ANALYSIS NO.: 816929-002
ANALYSES: EPA Method 602
DATE SAMPLED: 06/16/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT
Benzene	ND	ND	0.0007
Toluene	ND	ND	0.001
EthylBenzene	ND	ND	0.001
Total Xylenes	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-7-2095/2096

ANALYSIS NO.: 816929-003
ANALYSES: EPA Method 602
DATE SAMPLED: 06/16/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT*
Benzene	ND	ND	0.007
Toluene	ND	ND	0.01
EthylBenzene	ND	ND	0.01
Total Xylenes	ND	ND	0.01

*Higher detection limit is due to matrix interference.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-5-2085/2086

ANALYSIS NO.: 816929-001
ANALYSES: EPA Method 601
DATE SAMPLED: 06/16/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	0.001
Bromomethane	ND	ND	0.001
Vinyl Chloride	ND	ND	0.001
Chloroethane	ND	ND	0.001
Methylene Chloride	ND	ND	0.001
1,1-Dichloroethene	ND	ND	0.001
1,1-Dichloroethane	ND	ND	0.001
Trans-1,2-Dichloroethene	0.001	ND	0.001
Chloroform	0.018	ND	0.001
1,2-Dichloroethane	0.007	ND	0.001
1,1,1-Trichloroethane	ND	ND	0.001
Carbon Tetrachloride	0.026	ND	0.001
Trichlorofluoromethane	ND	ND	0.001
1,2-Dichloropropane	ND	ND	0.001
Trans-1,3-Dichloropropene	ND	ND	0.001
Trichloroethene	0.018	ND	0.001
Dibromochloromethane	ND	ND	0.001
1,1,2-Trichloroethane	ND	ND	0.001
cis-1,3-Dichloropropene	ND	ND	0.001
2-Chloroethyl Vinyl Ether	ND	ND	0.001
Bromoform	ND	ND	0.001
Tetrachloroethene	ND	ND	0.001
1,1,2,2-Tetrachloroethane	ND	ND	0.001
Chlorobenzene	ND	ND	0.001
Bromodichloromethane	ND	ND	0.001
1,2-Dichlorobenzene	ND	ND	0.001
1,3-Dichlorobenzene	ND	ND	0.001
1,4-Dichlorobenzene	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-00-2093/2094

ANALYSIS NO.: 816929-002
ANALYSES: EPA Method 601
DATE SAMPLED: 06/16/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	0.001
Bromomethane	ND	ND	0.001
Vinyl Chloride	ND	ND	0.001
Chloroethane	ND	ND	0.001
Methylene Chloride	ND	ND	0.001
1,1-Dichloroethene	ND	ND	0.001
1,1-Dichloroethane	ND	ND	0.001
Trans-1,2-Dichloroethene	ND	ND	0.001
Chloroform	ND	ND	0.001
1,2-Dichloroethane	ND	ND	0.001
1,1,1-Trichloroethane	ND	ND	0.001
Carbon Tetrachloride	ND	ND	0.001
Trichlorofluoromethane	ND	ND	0.001
1,2-Dichloropropane	ND	ND	0.001
Trans-1,3-Dichloropropene	ND	ND	0.001
Trichloroethene	ND	ND	0.001
Dibromochloromethane	ND	ND	0.001
1,1,2-Trichloroethane	ND	ND	0.001
cis-1,3-Dichloropropene	ND	ND	0.001
2-Chloroethyl Vinyl Ether	ND	ND	0.001
Bromoform	ND	ND	0.001
Tetrachloroethene	ND	ND	0.001
1,1,2,2-Tetrachloroethane	ND	ND	0.001
Chlorobenzene	ND	ND	0.001
Bromodichloromethane	ND	ND	0.001
1,2-Dichlorobenzene	ND	ND	0.001
1,3-Dichlorobenzene	ND	ND	0.001
1,4-Dichlorobenzene	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-7-2095/2096

ANALYSIS NO.: 816929-003
ANALYSES: EPA Method 601
DATE SAMPLED: 06/16/88
DATE SAMPLE REC'D: 06/17/88
DATE ANALYZED: 06/22/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	0.01
Bromomethane	ND	ND	0.01
Vinyl Chloride	ND	ND	0.01
Chloroethane	ND	ND	0.01
Methylene Chloride	ND	ND	0.01
1,1-Dichloroethene	ND	ND	0.01
1,1-Dichloroethane	ND	ND	0.01
Trans-1,2-Dichloroethene	ND	ND	0.01
Chloroform	ND	ND	0.01
1,2-Dichloroethane	ND	ND	0.01
1,1,1-Trichloroethane	ND	ND	0.01
Carbon Tetrachloride	ND	ND	0.01
Trichlorofluoromethane	ND	ND	0.01
1,2-Dichloropropane	ND	ND	0.01
Trans-1,3-Dichloropropene	ND	ND	0.01
Trichloroethene	0.1	ND	0.01
Dibromochloromethane	ND	ND	0.01
1,1,2-Trichloroethane	ND	ND	0.01
cis-1,3-Dichloropropene	ND	ND	0.01
2-Chloroethyl Vinyl Ether	ND	ND	0.01
Bromoform	ND	ND	0.01
Tetrachloroethene	ND	ND	0.01
1,1,2,2-Tetrachloroethane	ND	ND	0.01
Chlorobenzene	ND	ND	0.01
Bromodichloromethane	ND	ND	0.01
1,2-Dichlorobenzene	ND	ND	0.01
1,3-Dichlorobenzene	ND	ND	0.01
1,4-Dichlorobenzene	ND	ND	0.01

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

ANALYSIS NO.: 816929-001/003
ANALYSES: Miscellaneous
DATE SAMPLED: 06/16/88
DATE SAMPLE REC'D: 06/17/88
PROJECT: 50-1014-03

QA/QC SUMMARY

Date	Parameter(method)	Average Matrix Spike Recovery%	Acceptable Range%	Relative Percent Difference	Acceptable Range%
6/27/88	Cadmium (EPA 6010)	129	63-136	3	28
6/27/88	Chromium (EPA 6010)	131	47-159	3	47
6/27/88	Copper (EPA 6010)	108	58-127	3	37
6/27/88	Zinc (EPA 6010)	124	53-144	3	36
6/27/88	Total Organic Halogen (EPA 9020)	78	56-127	22	25
6/21/88	Total Organic Carbon (EPA 9060)	105	79-119	2	20
6/23/88	Chloride (EPA 300.0)	104	87-119	2	12
6/23/88	Nitrate as Nitrogen (EPA 300.0)	100	87-123	1	12

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

ANALYSIS NO.: 816929-001/003
ANALYSES: Miscellaneous
DATE SAMPLED: 06/16/88
DATE SAMPLE REC'D: 06/17/88
PROJECT: 50-1014-03

QA/QC SUMMARY

Date	Parameter(method)	Average Matrix Spike Recovery%	Acceptable Range%	Relative Percent Difference	Acceptable Range%
6/22/88	Toluene (EPA 602)	87	60-120	1	40
6/22/88	EthylBenzene (EPA 602)	77	60-120	11	40
6/22/88	Xylenes (EPA 602)	95	60-120	16	40
6/22/88	1,1-Dichloroethene (EPA 601)	81	60-120	1	40
6/22/88	Trichloroethene (EPA 601)	100	60-120	17	40
6/22/88	Chlorobenzene (EPA 601)	103	60-120	13	40

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June 29, 1988

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

ANALYSIS NO.: 816822-001/003
ANALYSES: Miscellaneous
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
PROJECT: 50-1014-03

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 816822-001/003 shown above.

Three liquid samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

Please note that ND( ) means not detected at the detection limit expressed within the parentheses.

Celina Aviles
REVIEWED

APPROVED

The Report Cover Letter is an integral part of this report.

Chemical Research Laboratories, Inc.
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KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

ANALYSIS NO.: 816822-001/003
ANALYSES: Miscellaneous
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
PROJECT: 50-1014-03

The following tests were performed on the sample received:

TEST	METHOD	REFERENCE	COMMENTS
Halogenated Volatile Organics (Liquid)	EPA 601	EPA 600[1], 1982	GC/Hall Detector
Aromatic Volatile Organics (Liquid)	EPA 602	EPA 600[1], 1982	GC/PID Detector
Chloride	EPA 300.0	EPA 600[2], 1984	IC
Sulfate	EPA 300.0	EPA 600[2], 1984	IC
Nitrate	EPA 300.0	EPA 600[2], 1984	IC
CAC Metals	EPA 6010	SW 846, 1986	ICAP
Total Organic Carbon	EPA 9060	SW 846, 1986	Infrared Detector
Total Organic Halogen	EPA 9020	SW 846, 1986	Carbon Adsorption, Microcoulometric-Titration Detector

[1]Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

[2]Methods for Chemical Analysis of Water and Wastes.

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-00-2067, 2068

ANALYSIS NO.: 816822-001
ANALYSES: EPA Method 601
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
DATE ANALYZED: 06/21/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	0.001
Bromomethane	ND	ND	0.001
Vinyl Chloride	ND	ND	0.001
Chloroethane	ND	ND	0.001
Methylene Chloride	ND	ND	0.001
1,1-Dichloroethene	ND	ND	0.001
1,1-Dichloroethane	ND	ND	0.001
Trans-1,2-Dichloroethene	ND	ND	0.001
Chloroform	ND	ND	0.001
1,2-Dichloroethane	ND	ND	0.001
1,1,1-Trichloroethane	ND	ND	0.001
Carbon Tetrachloride	ND	ND	0.001
Trichlorofluoromethane	ND	ND	0.001
1,2-Dichloropropane	ND	ND	0.001
Trans-1,3-Dichloropropene	ND	ND	0.001
Trichloroethene	ND	ND	0.001
Dibromochloromethane	ND	ND	0.001
1,1,2-Trichloroethane	ND	ND	0.001
cis-1,3-Dichloropropene	ND	ND	0.001
2-Chloroethyl Vinyl Ether	ND	ND	0.001
Bromoform	ND	ND	0.001
Tetrachloroethene	ND	ND	0.001
1,1,2,2-Tetrachloroethane	ND	ND	0.001
Chlorobenzene	ND	ND	0.001
Bromodichloromethane	ND	ND	0.001
1,2-Dichlorobenzene	ND	ND	0.001
1,3-Dichlorobenzene	ND	ND	0.001
1,4-Dichlorobenzene	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-00-2067, 2068

ANALYSIS NO.: 816822-001
ANALYSES: EPA Method 602
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
DATE ANALYZED: 06/21/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT
Benzene	ND	ND	0.0007
Toluene	ND	ND	0.001
Ethyl Benzene	ND	ND	0.001
Total Xylenes	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-1-2069/2070

ANALYSIS NO.: 816822-002
ANALYSES: EPA Method 601
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
DATE ANALYZED: 06/21/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	0.001
Bromomethane	ND	ND	0.001
Vinyl Chloride	ND	ND	0.001
Chloroethane	ND	ND	0.001
Methylene Chloride	ND	ND	0.001
1,1-Dichloroethene	ND	ND	0.001
1,1-Dichloroethane	ND	ND	0.001
Trans-1,2-Dichloroethene	ND	ND	0.001
Chloroform	ND	ND	0.001
1,2-Dichloroethane	ND	ND	0.001
1,1,1-Trichloroethane	ND	ND	0.001
Carbon Tetrachloride	ND	ND	0.001
Trichlorofluoromethane	ND	ND	0.001
1,2-Dichloropropane	ND	ND	0.001
Trans-1,3-Dichloropropene	ND	ND	0.001
Trichloroethene	.015	ND	0.001
Dibromochloromethane	ND	ND	0.001
1,1,2-Trichloroethane	ND	ND	0.001
cis-1,3-Dichloropropene	ND	ND	0.001
2-Chloroethyl Vinyl Ether	ND	ND	0.001
Bromoform	ND	ND	0.001
Tetrachloroethene	.002	ND	0.001
1,1,2,2-Tetrachloroethane	ND	ND	0.001
Chlorobenzene	ND	ND	0.001
Bromodichloromethane	ND	ND	0.001
1,2-Dichlorobenzene	ND	ND	0.001
1,3-Dichlorobenzene	ND	ND	0.001
1,4-Dichlorobenzene	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-1-2069/2070

ANALYSIS NO.: 816822-002
ANALYSES: EPA Method 602
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
DATE ANALYZED: 06/21/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT
Benzene	ND	ND	0.0007
Toluene	ND	ND	0.001
EthylBenzene	ND	ND	0.001
Total Xylenes	ND	ND	0.001

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LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-2-2077/2078

ANALYSIS NO.: 816822-003
ANALYSES: EPA Method 601
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
DATE ANALYZED: 06/21/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

EPA METHOD 601 HALOGENATED VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	0.001
Bromomethane	ND	ND	0.001
Vinyl Chloride	ND	ND	0.001
Chloroethane	ND	ND	0.001
Methylene Chloride	ND	ND	0.001
1,1-Dichloroethene	ND	ND	0.001
1,1-Dichloroethane	ND	ND	0.001
Trans-1,2-Dichloroethene	ND	ND	0.001
Chloroform	ND	ND	0.001
1,2-Dichloroethane	ND	ND	0.001
1,1,1-Trichloroethane	ND	ND	0.001
Carbon Tetrachloride	ND	ND	0.001
Trichlorofluoromethane	ND	ND	0.001
1,2-Dichloropropane	ND	ND	0.001
Trans-1,3-Dichloropropene	ND	ND	0.001
Trichloroethene	.023	ND	0.001
Dibromochloromethane	ND	ND	0.001
1,1,2-Trichloroethane	ND	ND	0.001
cis-1,3-Dichloropropene	ND	ND	0.001
2-Chloroethyl Vinyl Ether	ND	ND	0.001
Bromoform	ND	ND	0.001
Tetrachloroethene	ND	ND	0.001
1,1,2,2-Tetrachloroethane	ND	ND	0.001
Chlorobenzene	ND	ND	0.001
Bromodichloromethane	ND	ND	0.001
1,2-Dichlorobenzene	ND	ND	0.001
1,3-Dichlorobenzene	ND	ND	0.001
1,4-Dichlorobenzene	ND	ND	0.001

Chemical Research Laboratories, Inc.
SOUTHERN CALIFORNIA DIVISION
7440 Lincoln Way ● Garden Grove, CA 92641
(714)898-6370 ● FAX: (714)891-5917 ● (800)LAB-1CRL

LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-2-2077/2078

ANALYSIS NO.: 816822-003
ANALYSES: EPA Method 602
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
DATE ANALYZED: 06/21/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

EPA METHOD 602 AROMATIC VOLATILE ORGANICS

UNITS: mg/L

COMPOUND	RESULTS	BLANK	DETECTION LIMIT
Benzene	ND	ND	0.0007
Toluene	ND	ND	0.001
EthylBenzene	ND	ND	0.001
Total Xylenes	ND	ND	0.001

Chemical Research Laboratories, Inc.
SOUTHERN CALIFORNIA DIVISION
7440 Lincoln Way • Garden Grove, CA 92641
(714)898-6370 • FAX: (714)891-5917 • (800)LAB-1CRL

LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-1-2071/2076

ANALYSIS NO.: 816822-002
ANALYSES: Miscellaneous
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
DATE ANALYZED: 06/20-24/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

MISCELLANEOUS PARAMETERS

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
Total Organic Carbon (EPA 9030)	8.5	ND	1.
Total Organic Halogen (EPA 9020)	0.038	ND	0.01
pH (units) (EPA 9040)	7.05	N/A	N/A
Conductivity (uMHOS/cm) (EPA 120.1)	2,500.	ND	1.
Chloride (EPA 300.0)	460.	ND	0.1
Nitrite (EPA 300.0) Nitrate	23.	ND	1.
Nitrate as Nitrogen (EPA 300.0)	5.2	ND	0.2
Cadmium (EPA 6010)	ND	ND	0.01
Chromium (EPA 6010)	0.03	ND	0.02
Chromium, Hex (EPA 6010)	ND	ND	0.05
Zinc (EPA 6010)	0.07	ND	0.02

Chemical Research Laboratories, Inc.
SOUTHERN CALIFORNIA DIVISION
7440 Lincoln Way • Garden Grove, CA 92641
(714)898-6370 • FAX: (714)891-5917 • (800)LAB-1CRL

LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-2-2079/2084

ANALYSIS NO.: 816822-003
ANALYSES: Miscellaneous
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
DATE ANALYZED: 06/20-24/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

MISCELLANEOUS PARAMETERS

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
Total Organic Carbon (EPA 9030)	ND	ND	1.
Total Organic Halogen (EPA 9020)	0.032	ND	0.01
pH (units) (EPA 9040)	7.35	N/A	N/A
Conductivity (uMHOS/cm) (EPA 120.1)	1,500.	ND	1.
Chloride (EPA 300.0)	160.	ND	0.1
Nitrite (EPA 300.0) Nitrate	32.	ND	1.
Nitrate as Nitrogen (EPA 300.0)	7.2	ND	0.2
Cadmium (EPA 6010)	ND	ND	0.01
Chromium (EPA 6010)	ND	ND	0.02
Chromium, Hex (EPA 6010)	ND	ND	0.05
Zinc (EPA 6010)	ND	ND	0.02

Chemical Research Laboratories, Inc.
SOUTHERN CALIFORNIA DIVISION
7440 Lincoln Way • Garden Grove, CA 92641
(714)898-6370 • FAX: (714)891-5917 • (800)LAB-1CRL

LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

ANALYSIS NO.: 816822-001/003
ANALYSES: Miscellaneous
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
PROJECT: 50-1014-03

QA/QC SUMMARY

Date	Parameter(method)	Average Matrix Spike Recovery%	Acceptable Range%	Relative Percent Difference	Acceptable Range%
06/21/88	Cadmium (EPA 6010)	114	63-136	3	28
06/21/88	Chromium (EPA 6010)	105	47-159	2	47
06/21/88	Zinc (EPA 6010)	107	52-144	3	36
06/21/88	Total Organic Carbon (EPA 9060)	105	79-119	2	20
06/21/88	Total Organic Halogen (EPA 9020)	86	56-127	7	25
06/20/88	Chloride (EPA 300.0)	111	87-119	0	12
06/20/88	Nitrate-Nitrogen (EPA 300.0)	108	87-123	0	12

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458

July 19, 1988

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

ANALYSIS NO.: 816822-002/003
ANALYSES: Miscellaneous
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
PROJECT: 50-1014-03

Enclosed with this letter is the amended report on the chemical and physical analyses on the samples from ANALYSIS NO: 816822-002/003 shown above.

Three liquid samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

Please note that ND( ) means not detected at the detection limit expressed within the parentheses.

REVIEWED

APPROVED

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458

LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-1-2071/2076

ANALYSIS NO.: 816822-002
ANALYSES: Miscellaneous
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
DATE ANALYZED: 06/20-24/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

MISCELLANEOUS PARAMETERS

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
Total Organic Carbon (EPA 9030)	8.5	ND	1.
Total Organic Halogen (EPA 9020)	0.038	ND	0.01
pH (units) (EPA 9040)	7.05	N/A	N/A
Conductivity (uMHOS/cm) (EPA 120.1)	2,500.	ND	1.
Chloride (EPA 300.0)	460.	ND	0.1
Nitrate (EPA 300.0)	23.	ND	1.
Nitrate as Nitrogen (EPA 300.0)	5.2	ND	0.2
Cadmium (EPA 6010)	ND	ND	0.01
Chromium (EPA 6010)	0.03	ND	0.02
Chromium, Hex (EPA 6010)	ND	ND	0.05
Zinc (EPA 6010)	0.07	ND	0.02

Chemical Research Laboratories, Inc.
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(714) 898-6370 • (213) 598-0458

LABORATORY REPORT

KLEINFELDER
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Ken Durand

SAMPLE ID.: W-2-2079/2084

ANALYSIS NO.: 816822-003
ANALYSES: Miscellaneous
DATE SAMPLED: 06/15/88
DATE SAMPLE REC'D: 06/16/88
DATE ANALYZED: 06/20-24/88
SAMPLE TYPE: Liquid
PROJECT: 50-1014-03

MISCELLANEOUS PARAMETERS

UNITS: mg/L

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
Total Organic Carbon (EPA 9030)	ND	ND	1.
Total Organic Halogen (EPA 9020)	0.032	ND	0.01
pH (units) (EPA 9040)	7.35	N/A	N/A
Conductivity (uMHOS/cm) (EPA 120.1)	1,500.	ND	1.
Chloride (EPA 300.0)	160.	ND	0.1
Nitrate (EPA 300.0)	32.	ND	1.
Nitrate as Nitrogen (EPA 300.0)	7.2	ND	0.2
Cadmium (EPA 6010)	ND	ND	0.01
Chromium (EPA 6010)	ND	ND	0.02
Chromium, Hex (EPA 6010)	ND	ND	0.05
Zinc (EPA 6010)	ND	ND	0.02

BROWN AND CALDWELL LABORATORIES

373 SOUTH FAIR OAKS AVENUE PASADENA, CA 91105 • (818) 795-7553 • FAX (818) 795-8579

ANALYTICAL REPORT

LOG NO: P88-06-363

Received: 17 JUN 88
Reported: 06 JUL 88

Ken Durand
Kleinfelder
17100 Pioneer Blvd., Suite 350
Artesia, California 90701

Purchase Order: 50-1014-3

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
06-363-1	W-4A-2139,2140/50-1014-3	17 JUN 88
06-363-2	W-11-2148,2149/50-1014-3	17 JUN 88
06-363-3	W-10-2158,2159/50-1014-3	17 JUN 88
06-363-4	W-4-2168,2169/50-1014-3	17 JUN 88
06-363-5	W-00-2180,2181,2182/50-1014-3	17 JUN 88

PARAMETER	06-363-1	06-363-2	06-363-3	06-363-4	06-363-5
Chromium, mg/L	---	---	---	---	0.48
Nitric Acid Digestion, Date	---	---	---	---	06/23/88

BROWN AND CALDWELL LABORATORIES

373 SOUTH FAIR OAKS AVENUE PASADENA, CA 91105 • (818) 795-7553 • FAX (818) 795-8579

ANALYTICAL REPORT

LOG NO: P88-06-363

Received: 17 JUN 88
Reported: 06 JUL 88

Ken Durand
Kleinfelder
17100 Pioneer Blvd., Suite 350
Artesia, California 90701

Purchase Order: 50-1014-3

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
06-363-1	W-4A-2139,2140/50-1014-3	17 JUN 88
06-363-2	W-11-2148,2149/50-1014-3	17 JUN 88
06-363-3	W-10-2158,2159/50-1014-3	17 JUN 88
06-363-4	W-4-2168,2169/50-1014-3	17 JUN 88
06-363-5	W-00-2180,2181,2182/50-1014-3	17 JUN 88

PARAMETER	06-363-1	06-363-2	06-363-3	06-363-4	06-363-5
Halocarbons (EPA 601)					
Date Analyzed	07/01/88	07/01/88	07/01/88	07/01/88	07/01/88
Dilution Factor, Times 1	10	1	1	1	10
1,1,2,2-Tetrachloroethane, ug/L	<5	<0.5	<0.5	<0.5	<5
1,1,2-Trichloroethane, ug/L	<5	<0.5	<0.5	<0.5	<5
1,1-Dichloroethane, ug/L	130	7.7	43	<0.5	<5
1,1-Dichloroethene, ug/L	57	4.5	23	<0.5	<5
1,2-Dichlorobenzene, ug/L	<5	<0.5	<0.5	<0.5	410
1,2-Dichloroethane, ug/L	86	46	87	<0.5	<5
trans-1,2-Dichloroethene, ug/L	15	<0.5	<0.5	<0.5	<5
1,2-Dichloropropane, ug/L	<5	<0.5	<0.5	<0.5	<5
1,3-Dichlorobenzene, ug/L	<5	<0.5	<0.5	<0.5	400
1,4-Dichlorobenzene, ug/L	<5	<0.5	<0.5	<0.5	430
2-Chloroethylvinylether, ug/L	<5	<0.5	<0.5	<0.5	56
Bromodichloromethane, ug/L	<5	<0.5	<0.5	<0.5	<5
Bromomethane, ug/L	<5	<0.5	<0.5	<0.5	<5
Bromoform, ug/L	<5	<0.5	<0.5	<0.5	<5
Chlorobenzene, ug/L	<5	<0.5	<0.5	<0.5	420
Carbon Tetrachloride, ug/L	<5	<0.5	<0.5	<0.5	<5
Chloroethane, ug/L	<5	<0.5	<0.5	<0.5	<5
Chloroform, ug/L	13	1.4	2.5	<0.5	<5
Chloromethane, ug/L	<5	<0.5	<0.5	<0.5	<5
Dibromochloromethane, ug/L	<5	<0.5	<0.5	<0.5	<5

BROWN AND CALDWELL LABORATORIES

373 SOUTH FAIR OAKS AVENUE PASADENA, CA 91105 • (818) 795-7553 • FAX (818) 795-8579

ANALYTICAL REPORT

LOG NO: P88-06-363

Received: 17 JUN 88
Reported: 06 JUL 88

Ken Durand
Kleinfelder
17100 Pioneer Blvd., Suite 350
Artesia, California 90701

Purchase Order: 50-1014-3

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
06-363-1	W-4A-2139,2140/50-1014-3	17 JUN 88
06-363-2	W-11-2148,2149/50-1014-3	17 JUN 88
06-363-3	W-10-2158,2159/50-1014-3	17 JUN 88
06-363-4	W-4-2168,2169/50-1014-3	17 JUN 88
06-363-5	W-00-2180,2181,2182/50-1014-3	17 JUN 88

PARAMETER	06-363-1	06-363-2	06-363-3	06-363-4	06-363-5
Dichlorodifluoromethane, ug/L	<5	<0.5	<0.5	<0.5	<5
Methylene chloride, ug/L	60	<0.5	<0.5	79	16
Tetrachloroethene, ug/L	<5	<0.5	<0.5	<0.5	<5
1,1,1-Trichloroethane, ug/L	<5	<0.5	11	<0.5	<5
Trichloroethylene, ug/L	330	81	120	34	<5
Trichlorofluoromethane, ug/L	<5	<0.5	<0.5	<0.5	<5
Vinyl chloride, ug/L	<5	<0.5	<0.5	<0.5	<5
cis-1,3-Dichloropropene, ug/L	<5	<0.5	<0.5	<0.5	<5
trans-1,3-Dichloropropene, ug/L	<5	<0.5	<0.5	<0.5	<5

BROWN AND CALDWELL LABORATORIES

373 SOUTH FAIR OAKS AVENUE PASADENA, CA 91105 • (818) 795-7553 • FAX (818) 795-8579

ANALYTICAL REPORT

LOG NO: P88-06-363

Received: 17 JUN 88
Reported: 06 JUL 88

Ken Durand
Kleinfelder
17100 Pioneer Blvd., Suite 350
Artesia, California 90701

Purchase Order: 50-1014-3

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
06-363-1	W-4A-2139,2140/50-1014-3	17 JUN 88
06-363-2	W-11-2148,2149/50-1014-3	17 JUN 88
06-363-3	W-10-2158,2159/50-1014-3	17 JUN 88
06-363-4	W-4-2168,2169/50-1014-3	17 JUN 88
06-363-5	W-00-2180,2181,2182/50-1014-3	17 JUN 88

PARAMETER	06-363-1	06-363-2	06-363-3	06-363-4	06-363-5
Vol.Aromatics (EPA-602)					
Date Analyzed	07/01/88	07/01/88	07/01/88	07/01/88	07/03/88
Dilution Factor, Times 1	10	1	1	1	10
Chlorobenzene, ug/L	<5	<0.5	<0.5	<0.5	560
1,2-Dichlorobenzene, ug/L	<5	<0.5	<0.5	<0.5	520
1,3-Dichlorobenzene, ug/L	<5	<0.5	<0.5	<0.5	500
1,4-Dichlorobenzene, ug/L	<5	<0.5	<0.5	<0.5	510
Benzene, ug/L	<5	<0.5	<0.5	<0.5	560
Ethylbenzene, ug/L	48	<0.5	7.6	<0.5	510
Toluene, ug/L	130	0.7	<0.5	<0.5	550
Additional Compounds:					
Total Xylene Isomers, ug/L	160	110	<0.5	<0.5	30

Chlorobenzene and Dichlorobenzene results of sample -5 were analyzed at higher dilution at later time.-- D. Wong (07/05/88)

Jeffrey A. Erion, Laboratory Manager

AnalyticalTechnologies, Inc. Corporate Offices: 5550 Morehouse Drive San Diego, CA 92121 (619) 458-9141

ATI I.D. 806199

July 5, 1988

J. H. Kleinfelder & Associates
17100 Pioneer Blvd., Suite 350
Artesia, California 90701

Attention: Ken Durand

On June 15, 1988, Analytical Technologies, Inc. received two water samples. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. Please see the attached sheet for the sample cross reference.

The results and the sample cross reference are enclosed.

Carolyn A. Sites

for Patricia A. Schroder
GC Supervisor

Richard M. Amano
Laboratory Manager

PS:mag

Analytical Technologies, Inc.

ATI I.D. 806199

ANALYTICAL SCHEDULE

CLIENT: J.H. KLEINFELDER-ARTESIA PROJECT NO.: (NONE)
PROJECT NAME: (NONE)

ANALYSIS	TECHNIQUE	REFERENCE/METHOD
CHROMIUM	ICAP	EPA 6010
PURGEABLE AROMATICS	GC/PID	EPA 602

Analytical Technologies Inc.

CLIENT : KLEINFELDER-ARTESIA
PROJECT # : (NONE)
PROJECT NAME : (NONE)

DATE RECEIVED : 06/15/88
REPORT DATE : 07/05/88

ATI I.D. : 806199

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	C-21-3-01	WATER	06/15/88
02	10-GC-W-17-03	WATER	06/15/88

----- TOTALS -----

MATRIX	# SAMPLES
WATER	2

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc. METALS RESULTS

ATI I.D. : 806199

CLIENT : KLEINFELDER-ARTESIA
PROJECT # : (NONE)
PROJECT NAME : (NONE)

DATE RECEIVED : 06/15/88
REPORT DATE : 07/05/88

PARAMETER	UNITS	01
CHROMIUM	MG/L	0.45

Analytical Technologies, Inc. METALS - QUALITY CONTROL

CLIENT : KLEINFELDER-ARTESIA
PROJECT # : (NONE)
PROJECT NAME : (NONE) ATI I.D. : 806199

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
CHROMIUM	MG/L	80624801	<0.01	<0.01	0	4.8	5.0	96

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical Technologies Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 80619902

TEST : VOLATILE AROMATICS (EPA 602)

CLIENT	: KLEINFELDER-ARTESIA	DATE SAMPLED	: 06/15/88
PROJECT #	: (NONE)	DATE RECEIVED	: 06/15/88
PROJECT NAME	: (NONE)	DATE EXTRACTED	: N/A
CLIENT I.D.	: 10-GC-W-17-03	DATE ANALYZED	: 06/28/88
SAMPLE MATRIX	: WATER	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	500
TOLUENE	480
CHLOROBENZENE	500
ETHYLBENZENE	460
1,3-DICHLOROBENZENE	440
1,2 AND 1,4-DICHLOROBENZENE	900
META XYLENE	15
ORTHO & PARA XYLENE	21
SURROGATE PERCENT RECOVERIES	
BROMOCHLOROMETHANE (%)	128
TRIFLUOROTOLUENE (%)	106

Analytical Technologies Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : VOLATILE AROMATICS (EPA 602)

CLIENT	: KLEINFELDER-ARTESIA	ATI I.D.	: 806199
PROJECT #	: (NONE)	DATE EXTRACTED	: 06/28/88
PROJECT NAME	: (NONE)	DATE ANALYZED	: 06/28/88
CLIENT I.D.	: REAGENT BLANK	UNITS	: UG/L
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
BENZENE	<0.5
TOLUENE	<0.5
CHLOROBENZENE	<0.5
ETHYLBENZENE	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 AND 1,4-DICHLOROBENZENE	<0.5
META XYLENE	<0.5
ORTHO & PARA XYLENE	<0.5

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	129
TRIFLUOROTOLUENE (%)	108

APPENDIX
B

APPENDIX B

CHAIN-OF-CUSTODY RECORDS

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)*

TIM TURNER

Phone: 860 5559

SHIP TO:

CRL

7440 LINCOLN WAY

GARDEN GROVE

ATTENTION: Celine

Phone No.

SHIPPING INFORMATION

Shipper KLEINFELDER

Address ARTESIA

Date Shipped 6-16-88

Shipment Service CRL

Airbill No.

Cooler No.

Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
TIM TURNER		6-16-88 5:30
Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Receive for laboratory by*: *(Signature)* Jon Bailey	Date/Time 6/16/88 6:00 PM

*Analysis laboratory should complete, "sample condition upon receipt", section below, sign and return original (white) copy to KLEINFELDER, 17100 Pioneer Blvd., Suite 350, Artesia, CA 90701

Sample Number	Site Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
W-00 2067	50-1014-03	6-15-88	601, 602 (4 samples)	
W-00-2068			601, 602 (DUPLICATE)	
W-1-2069			601, 602 (4 samples)	
W-1-2070			601, 602 (DUPLICATE)	
W-1-2071			TOX	
W-1-2072			TOC	
W-1-2073			METALS - Cr, Cd, Zn	
W-1-2074			HEX. Chrom.	
W-1-2075			NH NO3	
W-1-2076			PH, COND, Cl	
W-2-2077			601, 602 (4 samples)	
W-2-2078			601, 602 DUPLICATE	
W-2-2079			TOX	
W-2-2080			TOC	

LAB INSTRUCTIONS: Laboratory reports should reference and be billed by site ID# and contain the following:

(1) summary of analytical methodology and QA work (blanks, spikes, duplicates)
(2) dates for (a) sampling, (b) lab receipt, (c) extraction, (d) injection/analysis
(3) detection limits for all constituents analyzed for and reporting of all constituents detected which were not specifically designated

(4) RESULTS TO KEN DURAND

(5) ~~DUPLICATES~~ — Send invoice to Southern Calif. Chem.

White - Kleinfelder Canary - Laboratory Courtesy Copy Pink - Sampler

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)* T. Turner

Phone:

SHIP TO:
CRL
7440 LINCOLN WAY
GARDEN GROVE

ATTENTION: Celine

Phone No.

SHIPPING INFORMATION

Shipper KLEINFELDER
Address ARTESIA
Date Shipped ~~ER~~ 6.16.88
Shipment Service CRL
Airbill No.
Cooler No.

Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
T. Turner		6.16.88 5:30
Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Receive for laboratory by*: *(Signature)* Ken Burley	Date/Time 6/16/88 6:00 PM

*Analysis laboratory should complete, "sample condition upon receipt", section below, sign and return original (white) copy to KLEINFELDER, 17100 Pioneer Blvd., Suite 350, Artesia, CA 90701

Sample Number	Site Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
W.2.2081	50.1014.03	6.15.88	METALS - Cr, Cd, Zn	
W.2.2082			ITEX Chrom	
W.2.2083			NENO3	
W.2.2084			PH/COND., Cl	

LAB INSTRUCTIONS: Laboratory reports should reference and be billed by site ID# and contain the following:

(1) summary of analytical methodology and QA work (blanks, spikes, duplicates)
(2) dates for (a) sampling, (b) lab receipt, (c) extraction, (d) injection/analysis
(3) detection limits for all constituents analyzed for and reporting of all constituents detected which were not specifically designated
(4) RESULTS TO KEN DURAND
(5) ~~DUPLICATES~~

White - Kleinfelder Canary - Laboratory Courtesy Copy Pink - Sampler

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)* Tim Turner

Phone:

SHIP TO:
CRL
7440 LINCOLN WAY
GARDEN GROVE

ATTENTION:

Phone No.

SHIPPING INFORMATION

Shipper KLEINFELDER
Address 6-17-88
Date Shipped ARTESIA
Shipment Service CRL
Airbill No.
Cooler No.

Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Tim Turner		6/16/88 5:05 P.M
(Signature)	*(Signature)*	
(Signature)	*(Signature)*	
(Signature)	Receive for laboratory by*: *(Signature)* Ron Bunley	6/17/88 8:00 PM

*Analysis laboratory should complete, "sample condition upon receipt", section below, sign and return original (white) copy to KLEINFELDER, 17100 Pioneer Blvd., Suite 350, Artesia, CA 90701

Sample Number	Site Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
W 5 2085	50.1014.03	6.16.88	601, 602	
W 5 2086			601, 602 Dup	
W 5 2087			TOX	
W 5 2088			TOC	
W 5 2089			METALS - Cr, Cd, Zn, Cu	
W 5 2090			HEX. Cr	
W 5 2091			ME NO3.	
W 5 2092			PH. COND. Cl	
W.00. 2093			601 602	
W.00. 2094			601 602 Dup	
W 7 2095			601 602	
W 7 2096			601602 Dup	
W 7 2097			TOX	
W 7 2098			TOC	

LAB INSTRUCTIONS: Laboratory reports should reference and be billed by site ID# and contain the following:

(1) summary of analytical methodology and QA work (blanks, spikes, duplicates)
(2) dates for (a) sampling, (b) lab receipt, (c) extraction, (d) injection/analysis
(3) detection limits for all constituents analyzed for and reporting of all constituents detected which were not specifically designated
(4) RESULTS TO KEN DURAND
(5) ~~DUPLICATES~~ Send invoice to Custom Gulf Chemical Co

White - Kleinfelder Canary - Laboratory Courtesy Copy Pink - Sampler

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)*

Tim Turner

Phone: 8605557

SHIP TO:

CRL
7440 LINCOLN WAY
GARDEN GROVE

ATTENTION: _____

Phone No. _____

SHIPPING INFORMATION

Shipper KLEINFELDER

Address ARTESIA

Date Shipped 6·17·88

Shipment Service CRL

Airbill No. _____

Cooler No. _____

Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Tim Turner	[signature]	6/17/88 5:05 P.M.
[signature]	[signature]	
	Receive for laboratory by*: *(Signature)* Don Bunker	6/17/88 8:00 AM

*Analysis laboratory should complete, "sample condition upon receipt", section below, sign and return original (white) copy to KLEINFELDER, 17100 Pioneer Blvd., Suite 350, Artesia, CA 90701

Sample Number	Site Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
W 7 2099	SD 1044 03	6·16 88	METALS - Cr, Cd, Zn, Cu	
W 7 2106			HEX. Cr	
W 7 2101			NEW03.	
W 7 2102			PH/COND. Cl	

LAB INSTRUCTIONS: Laboratory reports should reference and be billed by site ID# and contain the following:

(1) summary of analytical methodology and QA work (blanks, spikes, duplicates)
(2) dates for (a) sampling, (b) lab receipt, (c) extraction, (d) injection/analysis
(3) detection limits for all constituents analyzed for and reporting of all constituents detected which were not specifically designated

(4) RESULTS TO KEN DURAND

(5) _____

White - Kleinfelder Canary - Laboratory Courtesy Copy Pink - Sampler

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)* Tri Turner

Phone: 860 5559

SHIP TO:
CRL
7440 LINCOLN WAY
GARDEN GROVE

ATTENTION:

Phone No.

SHIPPING INFORMATION

Shipper: KLEINFELDER
Address: ARTESIA
Date Shipped: 6-17-88
Shipment Service: CRL
Airbill No.:
Cooler No.:

Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Tri Turner		6/17/88 5:05 P.M.
	Receive for laboratory by*: *(Signature)*	6/17 8 PM

*Analysis laboratory should complete, "sample condition upon receipt", section below, sign and return original (white) copy to KLEINFELDER, 17100 Pioneer Blvd., Suite 350, Artesia, CA 90701

Sample Number	Site Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
W-6-2103	SO 101403	6.17.88	601 602	
2104		DUPLICATE	601 602	
2105			TOX	
2106			TOC	
2107			METALS - Cr, Cd, Zn, Cu	
2108			HEX Cr	
2109			NENO3	
2110			PH/COND./CL	
W-8-2111			601 602	
2112		Duplicate	601 602	
2113			TOX	
2114			TOC	
2115			METALS - Cr, Cd, Zn, Cu	
2116			Hex. Cr	

LAB INSTRUCTIONS: Laboratory reports should reference and be billed by site ID# and contain the following:

(1) summary of analytical methodology and QA work (blanks, spikes, duplicates)
(2) dates for (a) sampling, (b) lab receipt, (c) extraction, (d) injection/analysis
(3) detection limits for all constituents analyzed for and reporting of all constituents detected which were not specifically designated
(4) RESULTS TO KEN DURAND
(5) ~~DUPLICATES~~ Send invoice to Golden Cal Chem Co.

White - Kleinfelder | Canary - Laboratory Courtesy Copy | Pink - Sampler

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)* H. Turner

Phone: 860 5559

SHIP TO:

CRL
7440 LINCOLN WAY
GARDEN GROVE

ATTENTION:

Phone No.

SHIPPING INFORMATION

Shipper KLEINFELDER

Address ARTESIA

Date Shipped 6-17-88

Shipment Service CRL

Airbill No.

Cooler No.

Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
H. Turner	[signature]	6/17/88 5:05 P.M
Relinquished by: *(Signature)* [signature]	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Receive for laboratory by: *(Signature)* [signature]	Date/Time 6/17 8PM

*Analysis laboratory should complete, "sample condition upon receipt", section below, sign and return original (white) copy to KLEINFELDER, 17100 Pioneer Blvd., Suite 350, Artesia, CA 90701

Sample Number	Site Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
W-8-2117	50-1014-03	6 17 88	NH_4NO_3	
W 8 2118			PH/COND, CL	
W 00 2119			601 602	
W 00 2120			DUPLICATE 601 602	
W-9-2121			601 602	
2122			DUPLICATE 601 602	
2123			TOX	
2124			TOC	
2125			METALS - Cr, Cd, Zn, Cu	
2126			HEX Cr	
2127			NH_4NO_3	
2128			PH/COND. CL	
W-3-2129			601 602	
2130			DUPLICATE 601 602	

LAB INSTRUCTIONS: Laboratory reports should reference and be billed by site ID# and contain the following:

(1) summary of analytical methodology and QA work (blanks, spikes, duplicates)
(2) dates for (a) sampling, (b) lab receipt, (c) extraction, (d) injection/analysis
(3) detection limits for all constituents analyzed for and reporting of all constituents detected which were not specifically designated
(4) RESULTS TO KEN DURAND
(5) DUPLICATES

White - Kleinfelder Canary - Laboratory Courtesy Copy Pink - Sampler

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)* T. Turner

Phone: 860 5559

SHIP TO:
CRL
7440 LINCOLN WAY
GARDEN GROVE

ATTENTION:

Phone No.

SHIPPING INFORMATION

Shipper: KLEINFELDER
Address: ARTESIA
Date Shipped: 6 17 88
Shipment Service: CRL
Airbill No.:
Cooler No.:

Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
T. Turner		6/17/88 5.05 P.M.
		Date/Time
Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Receive for laboratory by: *(Signature)*	Date/Time 6/17 8PM

*Analysis laboratory should complete, "sample condition upon receipt" section below, sign and return original (white) copy to KLEINFELDER, 17100 Pioneer Blvd., Suite 350, Artesia, CA 90701

Sample Number	Site Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
W-3-2131	501014 03	6-17-88	TOX	
2132			TOC	
2133			METALS - Cr, Cd, Zn, Cu	
2134			HEX Cr	
2135			N & NO_3.	
2136			PH / COND. CL	
W-4A-2137			601 602	
2138			601 602	
2139		DUPLICATE	601 602	
2140			601 602	
2141			TOX	
2142			TOC	
2143			METALS - Cr, Cd, Zn, Cu	
2144			HEX-Cr	

LAB INSTRUCTIONS: Laboratory reports should reference and be billed by site ID# and contain the following:

(1) summary of analytical methodology and QA work (blanks, spikes, duplicates)
(2) dates for (a) sampling, (b) lab receipt, (c) extraction, (d) injection/analysis
(3) detection limits for all constituents analyzed for and reporting of all constituents detected which were not specifically designated
(4) RESULTS TO KEN DURAND
(5) DUPLICATES

White - Kleinfelder Canary - Laboratory Courtesy Copy Pink - Sampler

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)* Ti Turner

Phone: 860 5559

SHIP TO:
CRL
7440 LINCOLN WAY
GARDEN GROVE

ATTENTION:

Phone No.

SHIPPING INFORMATION

Shipper: KLEINFELDER
Address: ARTESIA
Date Shipped: 6.17.88
Shipment Service: CRL
Airbill No.:
Cooler No.:

Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Ti Turner		6/17/88 5.05 P.M.
Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Receive for laboratory by: *(Signature)*	Date/Time 6/17 8PM

*Analysis laboratory should complete, "sample condition upon receipt" section below, sign and return original (white) copy to KLEINFELDER, 17100 Pioneer Blvd., Suite 350, Artesia, CA 90701

Sample Number	Site Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
W-4A-2146 / W-4A-2145	501014 03	6 17 88	NH3 / PH/COND/CL	
W-00-2144			DUPLICATES 601 602	
W-00-2145			601 602	
W-11-2146			DUPLICATE 601 602	
2147			601 602	
2148			601 602	
2149			601 602	
2150			TOX	
2151			TOC	
2152			METALS - Cr, Cd, Zn, Cu	
2153			HEX. Cr	
2154			NH3 NO3	
2155			PH/COND./CL	
W-10-2156			~~TOX~~ 601 602	

LAB INSTRUCTIONS: Laboratory reports should reference and be billed by site ID# and contain the following:

(1) summary of analytical methodology and QA work (blanks, spikes, duplicates)
(2) dates for (a) sampling, (b) lab receipt, (c) extraction, (d) injection/analysis
(3) detection limits for all constituents analyzed for and reporting of all constituents detected which were not specifically designated
(4) RESULTS TO KEN DURAND
(5) DUPLICATES

White - Kleinfelder Canary - Laboratory Courtesy Copy Pink - Sampler

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)* Tri Turner

Phone: 860 5559

SHIP TO:

CRL
7440 ~~CA~~ LINCOLN WAY
GARDEN GROVE

ATTENTION:

Phone No.

SHIPPING INFORMATION

Shipper KLEINFELDER
Address ARTESIA
Date Shipped 6.17.88
Shipment Service CRL
Airbill No.
Cooler No.

Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Tri Turner	[signature]	6/17/88 5:05 P.M.
[signature]		

*Analysis laboratory should complete, "sample condition upon receipt", section below, sign and return original (white) copy to KLEINFELDER, 17100 Pioneer Blvd., Suite 350, Artesia, CA 90701

Sample Number	Site Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
W.10.2157	50 101403	6.17.88	DUPLICATES 601, 602	
2158			601, 602	
2159			601, 602	
2160			TOX	
2161			TOC	
2162			METALS - Cr, Cd, Zn, Cu	
2163			HEX. Cr	
2164			NE NO3	
2165			PH/COND. CL	
W.4.2166			601 602	
W.4.2167			DUPLICATES 601 602	
2168			601 602	
2169			601 602	
2170			TOX	

LAB INSTRUCTIONS: Laboratory reports should reference and be billed by site ID# and contain the following:

(1) summary of analytical methodology and QA work (blanks, spikes, duplicates)
(2) dates for (a) sampling, (b) lab receipt, (c) extraction, (d) injection/analysis
(3) detection limits for all constituents analyzed for and reporting of all constituents detected which were not specifically designated
(4) RESULTS TO KEN DURAND
(5) DUPLICATES

White - Kleinfelder Canary - Laboratory Courtesy Copy Pink - Sampler

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)* Tim Turner

Phone: 860 5559

SHIP TO:
CRL
7440 LINCOLN WAY
GARDEN GROVE

ATTENTION:

Phone No.

SHIPPING INFORMATION

Shipper: KLEINFELDER
Address: ARTESIA
Date Shipped: 6·17·88
Shipment Service: GRL
Airbill No.:
Cooler No.:

Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Tim Turner		6/17/88 5:05 P.M.
Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Receive for laboratory by*: *(Signature)*	Date/Time 6/17 8PM

*Analysis laboratory should complete, "sample condition upon receipt" section below, sign and return original (white) copy to KLEINFELDER, 17100 Pioneer Blvd., Suite 350, Artesia, CA 90701

Sample Number	Site Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
W-4-2171	50 101403	6 17 88	TOC	
2172			METALS – Cr, Cd, Zn, Cu	
2173			HEX. Cr	
2174			NE NO3.	
2175			PH/COND. CL	
W-00-2176			DUPLICATE 601, 602	
W-00-2177			DUPLICATE 601, 602	
W-00-2178			Duplicate: 601, 602	
2179			Cr	
2183				

LAB INSTRUCTIONS: Laboratory reports should reference and be billed by site ID# and contain the following:

(1) summary of analytical methodology and QA work (blanks, spikes, duplicates)
(2) dates for (a) sampling, (b) lab receipt, (c) extraction, (d) injection/analysis
(3) detection limits for all constituents analyzed for and reporting of all constituents detected which were not specifically designated
(4) RESULTS TO KEN DURAND
(5) DUPLICATES

White - Kleinfelder Canary - Laboratory Courtesy Copy Pink - Sampler

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)*

Phone:

SHIP TO:
Brown & Caldwell
Ventura CA

ATTENTION:

Phone No.

SHIPPING INFORMATION

Shipper Viola/DC
Address Artesia
Date Shipped 6/17/88
Shipment Service BPC
Airbill No.
Cooler No.

Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
[illegible]	Paul L Seeley	6/17/88 1700
Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Received by: *(Signature)*	Date/Time
Relinquished by: *(Signature)*	Receive for laboratory by*: *(Signature)*	Date/Time

*Analysis laboratory should complete, "sample condition upon receipt", section below, sign and return original (white) copy to KLEINFELDER, 17100 Pioneer Blvd., Suite 350, Artesia, CA 90701

Sample Number	Site Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
W-4A-2139	SC-1017-3	6/17/88	[illegible]	
-2140			602	
W-11-2145			[illegible] 601 8	
2149			602	
W-10-2155			[illegible] 601 8	
2159			602	
W-4-2165			[illegible]	
2169			602	
W-CO-2170			[illegible]	
2171			602	
2172	↓	↓	Total Cr	

LAB INSTRUCTIONS: Laboratory reports should reference and be billed by site ID# and contain the following:

(1) summary of analytical methodology and QA work (blanks, spikes, duplicates)
(2) dates for (a) sampling, (b) lab receipt, (c) extraction, (d) injection/analysis
(3) detection limits for all constituents analyzed for and reporting of all constituents detected which were not specifically designated

(4) [illegible]

(5) [illegible] Cal-Chem Co.

White - Kleinfelder Canary - Laboratory Courtesy Copy Pink - Sampler

APPENDIX C

STATISTICAL ANALYSES METHODS

APPENDIX C

STATISTICAL ANALYSES METHODS

Interim status facilities are required to statistically evaluate groundwater data using a student's T-Test

The Average Replicate (AR) T-Test is applied to the chemical data from the SCC facility. Background concentrations are established and quarterly sampling data are statisticaly compared to the background values.

C.1 STATISTICAL ANALYSES OF BACKGROUND DATA

For each compound of concern, the background concentration must be determined using data from upgradient wells for a minimum period of one year. The background mean ($\bar{X}_b$) and variance (s^2_b) for each compound of concern were determined using the AR T-Test.

The following equations are used to derive the values:

WITHOUT CONCENTRATIONS LESS THAN DETECTION LIMIT VALUES

Background Mean

$$\bar{X}_b = \sum_{i=1}^{n_b} \sum_{j=1}^{o_b} \bar{X}_{b,ij} / n_b \cdot o_b$$

Background Variance

$$s^2_b = \sum_{i=1}^{n_b} \sum_{j=1}^{o_b} (\bar{X}_{b,ij} - \bar{X}_b)^2 / ((n_b \cdot o_b) - 1)$$

Where:

$\bar{X}_b$ = background mean

s_b^2 = background variance

$\bar{X}_{b,\,ij}$ = the concentration measurement from the i^{th} background well, and the j^{th} sampling period;

Where:

i = 1 to n_b and

j = 1 to o_b

WITH CONCENTRATIONS LESS THAN DETECTION LIMIT VALUES

Background Mean of All Nondetection Limit Values

$$\bar{X}_b' = \sum_{i=1}^{n_b} \sum_{j=1}^{o_b} \bar{X}_{b,ij}'/n_b'$$

Where:

n_b' = Number of values greater than or equal to the limit of detection in the background data set.

$\bar{X}_{b,ij}'$ = Values greater than or equal to the limit of detection in the background data set.

Background Variance of All Nondetection Limit Values

$$s_b^{2\prime} = \sum_{i=1}^{n_b} \sum_{j=1}^{o_b} (\bar{X}_{b,ij}' - \bar{X}_b')^2/(n_b' - 1)$$

Cohen's Adjustment

$$T_b = s_b^{2\prime}/(\bar{X}_b' - DL_b)^2$$

DL_b = mean background detection limit

h_b = proportion of values less than a limit of detection

λ_b = from Table AP.C-1 based on values of h_b and T_b.

Adjusted Background Mean

$$\bar{X}_b = \bar{X}'_b - \lambda_b(\bar{X}'_b - DL_b)$$

Adjusted Background Variance

$$s_b^2 = s_b^{2\prime} + \lambda_b(\bar{X}'_b - DL_b)^2$$

The pH values must be converted to hydrogen ion concentration to be evaluated by the AR T-Test. Conversion is accomplished using the following equation:

$$pH = - \log_{10} |H_3O^+|$$

Where:

H_3O^+ = moles/liter of H_3O^+.

Therefore:

$$|H_3O^+| = 10^{-pH}$$

C.2 COMPARISON OF MONITORING WELL GROUNDWATER DATA

The AR T-Test statistic is calculated for each monitoring well to evaluate whether there is a suggestion of contamination. The following equation is used to calculate the test statistic:

AVERAGE REPLICATE TEST STATISTIC

$$t^*_{m,i} = \frac{\bar{X}_{m,i} - \bar{X}_b}{s_b\sqrt{1 + 1/(n_b \cdot o_b)}}$$

Where:

$\bar{X}_m$ is equal to the compound concentration from the m^{th} well during the i^{th} sampling period.

The test statistic (t_m^*) is then compared with the Bonferroni critical test statistics (t_c). The critical test statistic is determined using the table of one tailed critical value which control the overall significance level at one percent (Table AP.C-2). The degrees of freedom is one less than the number of samples used to determine the background levels, and the total number of wells is the number of wells included in the sampling program.

If t_m^* is less than t_c than there is no statistical indication that the concentrations are higher than background levels in well m. If t^* is larger than t_c then there is a statistical indication that the concentrations in well m are higher than background levels.

TABLE AP.C-1

VALUES OF λ FOR ESTIMATING THE MEAN AND VARIANCE OF A NORMAL DISTRIBUTION WHEN LESS THAN DETECTION LIMIT VALUES ARE PRESENT

T	h					
	.01	.10	.20	.25	.30	.40
.00	.010100	.11020	.24268	.31862	.4021	.5961
.05	.010551	.11431	.25033	.32793	.4130	.6101
.10	.010950	.11804	.25741	.33662	.4233	.6234
.15	.011310	.12148	.26405	.34480	.4330	.6361
.20	.011642	.12469	.27031	.35255	.4422	.6483
.25	.011952	.12772	.27626	.35993	.4510	.6600
.30	.012243	.13059	.28193	.36700	.4595	.6713
.35	.012520	.13333	.28737	.37379	.4676	.6921
.40	.012784	.13595	.29260	.28033	.4755	.6927
.45	.013036	.13847	.29765	.38665	.4831	.7029
.50	.013279	.14090	.30253	.39276	.4904	.7129
.55	.013513	.14325	.30725	.39870	.4978	.7225
.60	.013739	.14552	.31184	.40447	.5045	.7320
.65	.013958	.14773	.31630	.41008	.5114	.7412
.70	.014171	.14987	.32065	.41555	.5180	.7502
.75	.014378	.15196	.32489	.42090	.5245	.7590
.80	.014579	.15400	.32903	.42612	.5308	.7676
.85	.014775	.15599	.33307	.43122	.5370	.7761
.90	.014967	.15793	.33703	.43622	.5430	.7844
.95	.015154	.15983	.34091	.44112	.5490	.7925
1.00	.015338	.16170	.34471	.44592	.5548	.8005

TABLE AP.C-1

(Continued)

VALUES OF λ FOR ESTIMATING THE MEAN AND VARIANCE OF A NORMAL DISTRIBUTION WHEN LESS THAN DETECTION LIMIT VALUES ARE PRESENT

T	h				
	.50	.60	.70	.80	.90
.00	.8368	1.145	1.561	2.176	3.283
.05	.8540	1.166	1.585	2.203	3.314
.10	.8703	1.185	1.608	2.229	3.345
.15	.8860	1.204	1.630	2.255	3.376
.20	.9012	1.222	1.651	2.280	3.405
.25	.9158	1.240	1.672	2.305	3.435
.30	.9300	1.257	1.693	2.329	3.464
.35	.9437	1.274	1.713	2.353	3.492
.40	.9570	1.290	1.732	2.376	3.520
.45	.9700	1.306	1.751	2.399	3.547
.50	.9826	1.321	1.770	2.421	3.575
.55	.9950	1.337	1.788	2.443	3.601
.60	1.007	1.351	1.806	2.475	3.628
.65	1.019	1.366	1.825	2.486	3.654
.70	1.030	1.380	1.841	2.507	3.679
.75	1.042	1.394	1.858	2.528	3.705
.80	1.053	1.408	1.875	2.548	3.730
.85	1.064	1.422	1.892	2.568	3.754
.90	1.074	1.435	1.908	2.588	3.779
1.00	1.095	1.461	1.940	2.626	3.827

From: A Clifford Cohen (1961), Technometrics 3:538

TABLE AP.C-2

ONE TAILED CRITICAL (t_c) VALUES WHICH CONTROL THE OVERALL SIGNIFICANCE LEVEL AT ONE PERCENT

Total No. of Wells	Degress of Freedom Associated with the Averaged Replicate Test Statistic								
	3	7	11	15	19	23	27	31	35
4	6.297	4.543	4.065	3.841	3.712	3.628	3.568	3.524	3.490
5	6.534	4.609	4.175	3.939	3.803	3.714	3.651	3.604	3.569
6	6.729	4.793	4.265	4.019	3.876	3.783	3.718	3.669	3.569
7	6.896	4.889	4.342	4.086	3.939	3.842	3.774	3.724	3.388
8	7.041	4.972	4.408	4.145	3.992	3.893	3.823	3.771	3.490
9	7.169	5.045	4.466	4.196	3.039	3.937	3.865	3.812	3.569
10	7.285	5.111	4.518	4.242	4.082	3.977	3.904	3.849	3.632
11	7.390	5.171	4.566	4.283	4.120	4.013	3.938	3.882	3.685
12	7.487	5.225	4.609	4.321	4.154	4.046	3.969	3.912	3.731
13	7.576	5.276	4.648	4.356	4.186	4.076	3.998	3.940	3.771
14	7.657	5.322	4.685	4.388	4.216	4.103	4.024	3.966	3.807
15	7.736	5.366	4.719	4.418	4.243	4.129	4.049	3.989	3.839